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ABSTRACT

Stanford's Environment for Teaching study involved analysis of data collected in 1973 and 1975 by questionnaire and interview from 188 principals and over 200 teachers from a stratified sample of 46 elementary schools drawn from 34 San Francisco Bay Area school districts. Using aggregate indices, the study examined data relating school complexity (both organizational and instructional), morale, satisfaction with decision-making, and strategies for control, influence, coordination, compliance, and support between teachers and principals. The original data and some additional data on academic achievement in the classrooms of the teachers interviewed have been reanalyzed using a new method of data reduction that isolates variables more precisely, takes into consideration whether principals or teachers provided the information analyzed, and correlates the results with school complexity. While replications of the original analyses were successful, new and interesting patterns were revealed. The major finding of the new study is that patterns of association vary radically with the domain (for example, morale) and source of information, a finding that was obscured by aggregation in the original analyses. The reanalysis raises the question, "Which structural properties of the school are loosely coupled and which are not?", and offers tentative hypotheses. (Author/PGD)

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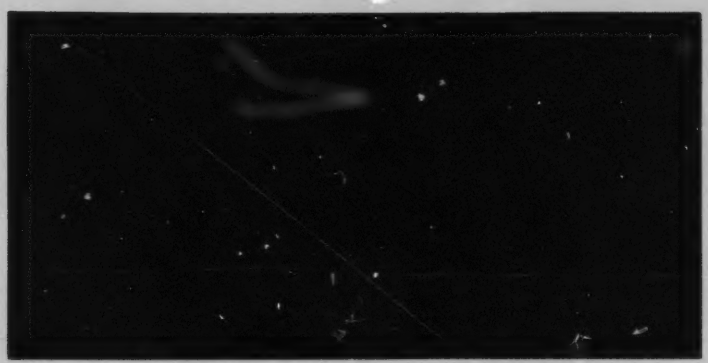

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Project Report No. 79-A8

SCHOOL GOVERNANCE AND SOCIOLOGICAL CORRELATES: SUMMARY OF SECONDARY ANALYSES OF THE ENVIRONMENT FOR TEACHING DATA

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ABSTRACT

This is a report of a reanalysis of the Stanford Environment for Teaching data. The data were obtained by questionnaire and interview method from superintendents, principals and teachers in a stratified sampling of San Francisco Bay area schools. Previous analyses identified major constructs including: The Complexity of schools as indicated by size, instructional differentiation, material variation and ECE participation; the Satisfaction with Decision Making and Morale of the participants; strategies for Control, Influence, Coordination and Compliance within and among lelves in the school organization hierarchy and the systems of Support particularly for teachers. Previous reports concern the relationships among these constructs as measured by aggregate indices.

This reanlaysis differes sharply from previous analyses in the method of data reduction. Variables are grouped with respect to domain (e.g., Morale) and source (e.g., whether principal or teacher) and correlation matrices for high and low complex schools are shown. Multi-dimensional scaling is used to reveal latent structure.

The major finding of this report is that patterns of association vary radically with the domain and source of information, a finding obscured by aggregation in past analyses. While replications of the original analyses were successful, changes in source and domain result in new and interesting patterns. Some (although not all) of the emerging patterns are explained tentatively as a result of the different perspectives of the participants. It is suggested that beyond the notion of "loose-coupling" in school organization lies the more interesting question, "Which structural properties of the school are loosely coupled and which are not?" Tentative hypotheses are offered.

Notes

1. It is at this point that we begin to depend upon our measure of achievement and interpret its place among organizational variables. The reader is advised of the following:

    - All claims here and elsewhere regarding causality are understood to be speculative. Our goal is to identify possible linkages and to inspire research which explores them adequately. Such research would not be a re-analysis but rather it would be carefully designed collection of new data.
    - We view achievement scores as a categorically different set of variables in this study. First, they are experimentally independent from all other data. Second, they are in some measure related to the construct of organizational output. That is, they have face validity in that schools are in the business of fostering achievement.
    - We understand the problems with specifying fully the construct of output. The mean level of classroom achievement is not independent of previous achievement, of the socioeconomic status of children and families populating the schools and may be affected by measurement bias depending upon ethnicity of pupils. A strong claim for achievement as outcome would depend upon a methodology aimed at controlling these known sources of covariation. Here we make a weak claim which is supported by our analysis of available data.

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INTRODUCTION

In this report we summarize, in a stepwise fashion, the secondary analyses which we performed on part of the Environment for Teaching (EFT) data that were collected in 1975.

Secondary analyses typically involve "the reanalysis of data for the purpose of answering the original research questions with better statistical techniques, or answering new questions with old data" (Glass 1976, p. 3). The kind of secondary analyses summarized here differs somewhat from the secondary evaluations and analyses most frequently quoted in the literature. Some of the better known secondary analyses were designed to recheck the validity of a "grand conclusion" of much social or theoretical importance. Examples include Mosteller and Moynihan (1972), Bowles and Levin (1968), and Levin's (1970) reanalysis of the Coleman Report, Smith and Bissell's reanalysis of the Westinghouse-Ohio study (1970), and Elashoff and Snow's (1971) reanalysis of Rosenthal's Pygmalion effect.

The analyses summarized here are of a somewhat different nature. The original analyses performed on the EFT data were not designed to test a single "major hypothesis" nor to answer a "major question." Rather, very large quantities of data were collected from some 188 principles, 34 superintendents and many teachers in the bay area school districts in 1973 and 1975. The data collected pertained to issues of daily school life, supervision, control, influence, conflict, morale, decision making, and the like. This large and impressive data base served then as a pool from which a number of researchers have drawn to test specific hypotheses.

Thus, our secondary analyses could not recheck any single "major" conclusion. Rather, the analyses were begun with the reexamination of a series of conclusions, by means of examining increasingly larger bodies of data, some of which were untapped by the original researchers. We were lead to search for emerging patterns

that have either been overlooked or that were not looked at before at all. Indeed, we did find such patterns and hence could generate -- through a process of induction -- a few new hypotheses. Consequently, what started out as a more or less traditional reexamination of previously-arrived-at conclusions, ended up being an inductive process which yielded new hypotheses for subsequent testing. Some of these relate to the hypotheses generated and tested by the original researchers, and some do not.

The reader is cautioned against viewing our analyses as if they were designed to test a priori hypotheses. They were not. This is, therefore, a technical report, not a theoretical paper with data to support a theory conceived of in advance. The hypotheses we offer were inducted from the data, step by step, rather than deducted from a theory. Thus, the same data that served us for the generation of the hypotheses could not serve us to test them, lest we moved in circles.

Since we began with a reanalysis of some data that, in our opinion, lead researchers to incongruous conclusions, our analyses did not encompass the whole data base, even though we added increasingly more variables to our analyses. It became evident that analyses of the whole array of data would require more than a single year's work. The data base is so rich and interesting that much more work could and should be invested in it. We felt that the 1975 data of principals and teachers who teach in their schools (46 schools altogether) were rich enough; thus, we did not reanalyze the 1973 data, nor did we analyze data whose origin were superintendents.

The report may seem at times to be very technical, and detailed, even redundant. Yet, we present here not just the bottom lines of our analyses but the stages of our inquiry. We started out with as naive an eye as possible,

letting the data suggest hypotheses and patterns, rather than preconceiving them. Indeed, the reader will notice how discrepancies, surprises, and incongruities lead us to examine new avenues. For this reason, the reader will also notice that only simple statistical procedures were used; more sophisticated ones -- better designed for the testing of a priori hypotheses -- would lead us to premature closure.

While we tried to avoid premature conceptions, which could constrain our vision as secondary analysts, we did not approach the data with total naivitte. As the philosopher Nelson Goodman points out, there is really no naked eye nor an unbiased onlooker. We were guided by a few "biases" or curiosities. One of them was our desire to look at large patterns of relations among variables rather than at single relationships. Such a "bias" was guided by the notion that organizational and psychological "entities" interact in complex patterns. The notion of "other things being equal," while crucial an assumption when testing a clear, preconceived linear hypothesis, can be badly misleading when the "behaviors" of schools are looked at. Indeed, what a priori grounds do we have to look at, say, morale as the dependent variable of control or coordination?

A second "bias" we had was that the sociological, organizational or institutional reality which is under consideration (i.e., the reality of the "environment" for teaching) is not an unequivical one. The same school-policies, hierarchical controls or supports, may be different "realities" for different parties. Is consensus just a psychometric phenomenon or is it some degree of agreement and convergence of, say, interpretations, that respondents perceive? We tried in our analyses to compare and contrast the "realities" of different parties, not to settle in advance on one party's "reality" as being the more valid one. As we gradually discovered, the discrepancies between the perceptions of the same "reality" by teachers and principals are a rich source of information.

The report has two major chapters. The first chapter summarizes the data analyses. It begins with the reanalysis of specific conclusions of the earlier studies. The inclusion of a larger array of data generates new hypotheses which are subsequently discussed. A second section of the first chapter introduces new variables (discrepancies between teachers' and principals' responses) and sheds additional light on the new hypotheses. In the second chapter, jointly written with Joan Talbert, we try to tie together all the pieces and suggest a few tentative propositions pertaining to (a) the nature of school governance, and (b) the nature of organizational and phenomenological data.

Finally, we wish to express our sincere thanks to Elizabeth Cohen, Russell Miller, Terry Deal, and Ann Stackhouse, without whose help we could not have even started to analyze the huge amount of data that they, and others have gathered. We are fully aware that secondary analysts can be a threat to researchers, what with the former's wisdom of hindsight and detachment from the data they never bothered to collect. Therefore, it was for us such a pleasant experience to enjoy the helpful hand stretched out to us by the original researchers whose data we reanalyzed.

CHAPTER I

The Reanalysis of the Data

SECTION I

School Governance as Related to Teachers' Morale and Students' Achievements

In this section we report a number of statistical analyses performed on the original data along the general lines described above. As noted, these analyses neither exhaust the possibilities nor do they include the whole array of available data. Our intent was to (1) reexamine some of the conclusions arrived at by the researchers who originally collected the data, and (2) to uncover trends and patterns in the data which were not dealt with originally.

The Original Research

Cohen and others (Cohen, Miller, Bredo and Duckworth, 1977; Cohen and Miller, 1979) tested a number of hypotheses relating teachers' morale to principals' supervision, control, supportiveness and the like in different kinds of school settings. Three major hypotheses and the studies that tested them are reported briefly below.

(a) "In school where most of the teachers are interdependent... a close supervisory role of the principal with respect to instruction will not be positively associated with staff morale. Close supervision in a school where most teachers work alone should have a very different (i.e., positive) meaning for teachers" (Cohen, et al., 1977, p. 7).

The hypothesis was tested both by comparing five schools whose teachers are highly interdependent with 29 schools with little interdependence, and by splitting the whole sample in two -- "high" and "low" interdependence schools. Measures of interdependence were collapsed into a Guttman scale. So did the measures of principals' supervision (as reported by teachers), and principals'

supportiveness (teachers' reports). Supervision served as predictor of teachers' morale (single item measuring satisfaction with school), while support, educational background of students, and material variation in teaching were partialled out. All data were based on questionnaire items and interview questions.

The prediction was upheld: "Under conditions of high interdependence, supportiveness works positively, but supervision works negatively" (Cohen, et al., p. 30). The authors also point out that in more interdependent schools more collegial evaluation is found and is a better predictor of teachers' satisfaction than principals' supervision.

(b) "Under conditions of organizational complexity, coordination and control will become much more sharply (positively) related to the teachers' evaluation of decision-making process" (Cohen, et al., p. 40). (A note: teachers' satisfaction with decision-making henceforth SDM, was conceptualized by Cohen, et al. as "morale" (p. 58); indeed the median correlation between the various morale measures and those of SDM is .62).

Schools were divided into "high" and "low" complexity according to an index composed of four variables: size, instructional choice and variation, interdependence among teachers, and environmental complexity, that is -- participation in ECE programs.

The major predictors were (i) principals' reports on the use of Ad Hoc committees; (ii) the use of impersonal coordination modes in the school (measured by teachers' reports on different school-policies), and (iii) principals' supervisory behavior (principals reports, as contrasted with teachers' reports which served as predictors of morale in the previous study). The three measures were indexed such that a single score could represent each of them for each school. The dependent variable was a Guttman-scale index of teachers' satisfaction with decision-making in school (SDM).

The original analyses showed that complex schools did not differ from non-complex ones with respect to any of the coordination modes utilized, lending possible support to the loose-coupling hypothesis (e.g., Meyer, Scott, Cole, and Intili, 1978). Using multiple regression techniques, the authors found support for their hypothesis that principals' supervisory behavior positively predicts teachers' SDM in complex, but not in noncomplex schools. The existence of policies (teachers' reports) was a moderate predictor of SDM in both settings while the existence of Ad Hoc committees did not predict morale in either setting. Finally, SDM was positively related to principals' supportiveness (teachers' reports) in both settings, particularly in complex schools. The authors concluded that principals' support ("climate leadership") may be a necessary factor for high SDM, but his/her supervisory behavior is the sufficient factor in complex schools (Cohen, et al., 1977, p. 62).

(c) "ECE schools (taken to represent organizations with complex and uncertain environment) will use more coordination by mutual adjustment featuring horizontal communication than will non-ECE schools. Failure to coordinate will be more strongly related to ineffectiveness of decision-making in ECE schools than in other schools" (Cohen and Miller, 1979, p. 12).

Measures used to predict SDM were: (i) impersonal coordination, i.e., index of teachers' reports on school policies, (ii) principals' reports on their use of Ad Hoc committees, (iii) principals' reports on their supervisory behavior (as used in the previous study and as contrasted with teachers' reports in the first study), and (iv) teachers' reports of principals' supportiveness.

Dividing the sample into ECE and non-ECE schools, the authors reported finding somewhat more coordination in the ECE schools.[1] The authors also reported that correlation between the predictor variables and SDM were higher in the ECE schools than in non-ECE ones.[2] Finally, multiple regression analyses indicated that, as before, principals' support predicted SDM in both settings (particularly well in ECE schools), and that principals' supervision and control account for more SDM variance in the ECE schools. This lead the authors to conclude that (a) "failure to employ strategies of coordination and control predicts failure in the decision making process (as judged by teachers)," and (b) "it is possible that the successful ECE principal offers rewards, resources and supportive supervision to the teachers in exchange for compliance and acceptance of joint responsibility for the outcomes of the ECE program" (Cohen and Miller, 1979, pp. 21-22). However, the latter conclusion does not follow from the original data analyses.

Considerations: The original findings showing that coordination and control are more strongly associated with teachers' SDM in complex

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[1] A χ^2 test performed on these data show that these feelings are significant only with respect to principals', but not teachers' reports.

[2] Additional analyses show that while this indeed is the trend, eight out of ten comparisons (80%) are not significant due, apparently, to the small n's ($n_1 = 13$, $n_2 = 18$).

schools (study "b" above) were upheld when tested on ECE schools (study "c" described above). This should come as no surprise since ECE participation was used as a component in the school complexity index of the former study. Moreover, since ECE is related to instructional choice and with interdependence among teachers, two additional components of the original school complexity index, the findings of the studies "b" and "c" should indeed overlap.

However, as it may have been noted already, the findings of these two studies disagree with those of the first study (study "a" described above). In that study it was found that principals' supervision is related to teachers' morale in non-interdependent schools. The disagreement is interesting since interdependence served as one of the components of the school complexity index of study "b". Also the dependent variable used in that study -- teachers' satisfaction with their schools -- correlates highly with SDM (median r = .62). Thus, as the three studies, in essence, replicate each other, their findings should have been far more congruent.

An examination of the measures used reveals an important difference between the studies: while the first study(contrasting high and low interdependent schools) used teachers' reports of principals' supervision, the two other studies (constrasting high and low complexity schools with ECE and non-ECE schools) used principals' reports of supervision. And while the first study defined morale as teachers' overall satisfaction with their schools, the other two used measures of satisfaction with decision making (SDM). Could it be then that in spite of the similarity of variables referred to entirely different constructs were measured? Alternatively, could it be that the same constructs carry different meanings to different respondents such that their reports yield incongrous findings?

To address these questions our secondary analyses were based on clusters of single items, rather than on Guttman-scale indices. Combining different questionnaire items into one index may obscure interesting differences in the patterns shown by component items. For example: the median correlation between principals' report on the explicitness of a school policy pertaining to curriculum and teachers' morale in uncomplex schools is .52, but the principals' reports on policies pertaining to students' conduct correlates -.44 with morale for the same sample of schools. While collapsing the two policy variables may be admissible and useful for some purposes, some revealing information is lost.

In addition, our secondary analyses included whenever possible, the measure based on both teachers' and principals' reports. Thus, for example, we could reexamine the original conclusions by looking at the relationships between supervision and morale in terms of both teachers' and principals' accounts.

We felt that interdependence among teachers, school complexity and ECE participation are well expressed through a school complexity measure. Following Cohen et al. (1977), we used four components to generate the complexity score: school size, interdependence, material variation and ECE participation. Unlike Cohen et al., we gave each component equal weight (by standarizing the scales), and then split the whole school sample (n=46) at the median complexity score. Thus we obtained high-complexity (hicomplex) and low complexity (locomplex) samples of 23 each.

Finally, we included the reading achievement scores of the classrooms whose teachers were in the sample. These achievement scores were obtained from the files of the California Department of Education, and pertain to the same year (1975-76) in which the original data were collected.

Method

In this section, we will review the characteristics of the data we have reanalyzed and describe the statistical methods we have employed. Our remarks about the original design are taken directly from the descriptions offered by the original investigators and are intended primarily to orient the reader to the subsample of variables and cases we examined. The description of statistical method is also intended to orient the reader to the basic strategies we used. Characteristics of particular analyses are included in the body of the text.

Sample Characteristics

The data reanalyzed here were collected originally by the Environments for Teaching Program in a study of school organization and instruction begun in 1973. In the full study, random samples of schools in the San Francisco Bay Area were surveyed in 1973 and again in 1975. Questionnaires and interviews were used to gather information from superintendents, principals and teachers.

Our analyses are based upon the data collected in 1975. We selected cases for which both principal and teacher data were available. This subsample was not a random one. Rather, the original investigators had chosen 46 schools to represent a wide range of staffing patterns based on 1973 findings.

Our variables were selected in two different ways. The first strategy was to comb through the original questionnaires and to group items according to recurring themes. In this way we became familiar with the variables

and began to consider likely clusters (e.g., we "discovered" collections of teacher morale variables[3]). A second strategy was to persue the reports based on these data and determine which variables or items from the questionnaires were employed. With the two methods, we converged on the set of variables for our study.

Three variables were added to the data base. We acquired the first, second and third grade reading achievement score averages for the 46 schools from the archives of the California State Department of Education. This follows from our interest in examining both the interior structure of the schools and the relationship of organization and student outcomes.

Statistical Methods

As an initial step, teacher data were aggregated to the school level and merged with principal data. For each teacher variable, we retained the mean as well as the standard deviation of the teachers' responses. Descriptive statistics were computed for all variables and were examined to be sure that each variable of interest was not at ceiling or floor, that each was scaled as the questionnaire had suggested and that each had an appropriate variance. Again, the goal of familiarity with the data was clear. Before examining relationships among items, we had to know the basic descriptive characteristics of them.

The major distinction between our analyses and those of the original investigators concerns reduction of the data. Cohen and her collaborators often used Guttman techniques to extract scales based on a set of variables.

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[3]This idea of approaching the data in a naive manner and rediscovering its structure is clearly a crucial step for reanalysis. Familiarity is essential.

Thus morale, supervision and other key concepts were reduced to a single index. As an alternative we began by forming simple summative indices to represent constructs. Both composites and discrete variables were intercorrelated. We found that for most clusters of variables, our indices were poor summaries. For example, as we argue in the body of the text, policy about discipline is a particularly salient variable in certain circumstances while policy about student grading is not. Our composites averaged the differences among the similar variables. Thus we abandoned them and we continued analysis with discrete variables.

While the process of inspecting many interrelationships was more tedious, the fine-grained view of the data provided us with information needed for the report herein. As you shall see, our method was to seek patterns among the correlations and to ponder how these might be explained.

Multi-dimensional scaling and hierarchical clustering were employed to produce visual representations of the fine-grained patterns we examined. The two techniques are complementary methods of extracting latent structure in matrices of similarity values (Johnson, 1967; Shepard, 1964). While entering correlation tables, we received in turn maps of the variables where the distances represented associational strength. Hierarchical clustering accepts the same correlation matrices and produces grouping of variables in a tree-like structure. When we imposed the cluster structure on the scaling map, we were able to see more clearly the arrangement of variables in a two dimensional space. The scaling and clustering procedures produced no new findings. Rather they were aids to our thinking and are hopefully aids in our attempts to communicate dense information to the reader.

Analyses were performed within HIGH and LOW complex schools. An index of complexity was developed using the variables identified by Cohen and her collaborators; namely, school size, teacher interdependence, whether

ECE programs were implemented and material variation. The index was computed as the simple sum of the z-scores for each of the four ingredients. Thus, each variable contributed equally to the composite. To look within these types of schools, the sample of 46 schools was split at the median value on the complexity index.

Sample size varied within HIGH and LOW complexity schools. This was due to the use of two non-parallel forms of the teacher questionnaire in 1975. When variables appeared only on one form, the sample size dropped. For variables scripted "A" and "B" (e.g., MVA62), samples varied from 10 to 18. The maxium for variables common to both questionnaire forms was 23. The reader is advised to attend to this variation in sample sizes.

Results

Comparisons between means for the hicomplex and locomplex schools indicates that the complexity measure distinguishes among the schools on basic conditions which pertain to (but do not necessarily correlate with) school governance. In addition to distinguishing among schools on variables included in the complexity index, the dichotomy constrasts the schools in terms of funding levels, open space classrooms, extent of student grouping, and frequency of reading program evaluation. The latter item is the only governance-related correlate of the complexity measure which distinguishes significantly among the hicomplex and locomplex schools.

Hardly any other mean differences were found between hicomplex and locomplex schools. Importantly, neither SES nor achievement scores had different means or variances in the two samples. By and large, hicomplex and locomplex schools did not differ with respect to coordination, control, morale, conflict, compliance, faculty tenure, or school policies.

The next stage of our analysis was to examine the relationships between coordination and control variables with morale and SDM, including those variables that were originally examined by Cohen et.al. (1977) and Cohen and Miller (1979) and the achievement data. Extensions which include more variables, will be discussed in later sections of this chapter.

First, let us examine the "dependent" variables: teachers' morale and teachers' satisfaction with decision-making (SDM). As noted above, there were no significant differences in levels of morale or SDM between the two samples. As can be seen in table 1, the items relevant to teacher morale show higher intercorrelations in hicomplex than in locomplex schools (median r's are .62 and .29 respectively), while SDM measures intercorrelate slightly higher in locomplex than in hicomplex schools (median r's are .85 and .70, respectively).

TABLE 1

Correlations Among Morale, Satisfaction with Decision Making, and Achievement Variables, Separately for High Complexity and Low Complexity Schools

		MORALE					SATISFACTION WITH DECISION MAKING					ACHIEVEMENT		
		MV84	MV85	MV86	MV87	MVA68	MVA18	MVA19	MVA20	MVA21	MVA22	READ1	READ2	READ3
MORALE	MV84: Satisfaction with school		.82**	.67**	.76**	.37	.69**	.68**	.60**	.49*	.42*	.30	.55**	.53*
	MV85: Satisfaction with principal	.75**		.36**	.81**	.21	.52*	.48*	.52*	.32	.43*	.27	.58**	.48*
	MV86: Satisfaction with and work relations	.68**	.50**		.42*	.52*	.61*	.60**	.55**	.57**	.43*	.29	.38*	.42*
	MV85: Satisfaction with occupation	.24	.10	.42*		.23	.32	.27	.40	.23	.46*	.04	.29	.21
	MVA68: Effectiveness as teacher	.27	.26	.14	.33		.17	.28	.24	.43*	.36	.51**	.07	.05
DECISION MAKING	MVA18: Statisfaction DM: problems defined	.56*	.78**	.24	-.33	.10		.92**	.85**	.70**	.58**	.10	.48*	.57
	MVA19: Satisfaction DM: alternatives clear	.58*	.86**	.27	-.33	.18	.96**		.88**	.53*	.41*	.00	.29	.45*
	MVA20: Satisfaction DM: all views heard	.49*	.80**	.17	-.39	.13	.97**	.98**		.57**	.63**	.00	.28	.43*
	MVA21: Satisfaction DM: implementation	.70**	.80**	.37	-.11	.14	.84**	.80**	.81**		.71**	.34	.40*	.40*
	MVA22: Satisfaction DM: evaluation of effectiveness	.65**	.86**	.41	.05	.29	.81**	.85**	.83**	.90**		-.06	-.05	-.00
ACHIEVEMENT	READ 1: First grade reading 1975	.34	.28	.03	.05	.41	.04	.19	.11	.45	.50		.71**	.72*
	READ 2: Second grade reading 1975	.37	.16	-.05	-.02	.43	.04	.18	.06	.40	.42	.78**		.93*
	READ 3: Third grade reading 1975	.30	.07	-.14	-.34	.04	.22	.29	.18	.44	.42	.61**	.88**	

Note: Upper triangle: high complexity schools, lower triangle: low complexity schools

* $p < .05$

** $p < .01$

Significance levels change as function of n (maximum n=23).

The morale measure that best correlates with the others in both samples is the teachers' satisfaction with school (MV84). But while the other morale variables are closely associated in the hicomplex schools, two morale variables in the locomplex schools seem to be somewhat unrelated. These are the teachers' satisfaction with their occupation (MV87) and their feeling of effectiveness (MVA68). Indeed, teachers' satisfaction with their occupation even correlates negatively with SDM measures in the locomplex sample, while the relations are mildly positive in the hicomplex one.

In sum, the morale measure of teachers' satisfaction with their schools appears to be an adequate indicator of morale in both samples, as suggested by its use as a single-item dependent variable in the first study by Cohen et al. (1977). It can also be stated that morale and SDM are sufficiently related to represent a general construct though SDM would seem a more specific indicator of teacher morale.

Next, let us examine the correlational patterns among morale, SDM and student achievement measures. It will be noted in table 1 that morale variables, with the exception of satisfaction with occupation, correlate significantly and substantially with achievement scores, based on state-wide tests, in hicomplex schools but not in locomplex ones. (median r's are .40 and .16, respectively). The only morale variable that shows a substantial association with achievement in locomplex schools is teachers' effectiveness (MVA68), but due to a small n, it fails to reach significance. (As later analyses will show, this self-perceived efficacy of teachers is systematically linked with achievement, but not with other morale variables for the locomplex schools.)

The observation that morale variables correlate more strongly with achievement in the hicomplex sample is reinforced by a similar pattern

pertaining to SDM. These SDM items correlate somewhat more strongly with achievement in the hicomplex schools. One noteable exception is teachers' satisfaction with their school's evaluation of the effectiveness of decisions (MVA22). While this variable tends to correlate positively (but .10>p>.05) with achievement in locomplex schools, it does not correlate with achievement for hicomplex schools. This suggests that evaluation of effectiveness of decisions may be related to school practices differently than is information regarding decision parameters, which other SDM measures represent.

Thus, the use of morale and SDM for subsequent analyses seems warranted not only because they are interesting constructs on their own right, but because they also correlate differentially with achievement. But can they be treated as dependent variables of, say, any organizational process or as independent with respect to student achievement? Isn't it conceivable that students' achievements affect morale, or that teachers' morale effects principals' supervisory behavior, rather than the other way around? We will leave these questions of casual order open for the time being.

Next, let us turn to the "independent" variables of the earlier studies: coordination and control, as measured by either principals' accounts of their own supervisory behavior or by teachers' preceptions of the same.

Table 2 shows the correlations of principals' and teachers' accounts relevant to this variable. It should be noted that in both kinds of school setting, the teacher response items and the principal response items are quite highly intercorrelated (median r in hicomplex = .61 and in locomplex = .46 for teacher-reported measures, and median r in hicomplex = .40 in locomplex =.47, for principal-reported measures).

However, teachers' and principals' accounts of the latter's supervisory behavior are far less well correlated, hardly at all in locomplex

Table 2

Correlations Among Principal Accounts of Principal Supervision and Teacher Accounts of Principal Supervision Separately for High Complexity and Low Complexity Schools

		Principal Accounts of Principal Supervision				Teacher Accounts of Principal Supervision					
		PV294[a]	PV295	PV342	PV343	MV44[a]	MV75[b]	MV47	MV48	MV76	MV30
PRINC.ACCTS. OF PRINC. SUPV.	PV294[a]:freq.princ.adv.re:tchng		.32	.49**	.39*	₮02	.29	.39*	.11	.17	.41*
	PV295:freq.princ.discuss t.work	.51**		.50**	.42*	₮06	.20	.41*	.27	.26	.28
	PV342[b]:freq.rdng.tchrs.eval.	.72**	.69**		.12	.36*	.50**	.52**	.48**	.42*	.19
	PV343:freq.rdng.prog.eval	.27	.43*	.42*		.00	.01	₮07	₮02	₮12	₮03
TCHR.ACCTS.OF PRINC.SUPV.	MV44[a]:freq.princ.adv.on tchng	.09	.29	.41*	₮02		.67**	.32	.65**	.47*	.29
	MV75[b]:princ.eval.tchng subj.mttr	.05	.25	.34	.04	.46*		.63**	.76**	.81**	.40*
	MV47:princ.well-infrmd disc.prob	.09	.40*	.33	.08	.29	.33		.69**	.61**	.52**
	MV48:princ.well-infrmd own instr	.22	.24	.33	₮02	.37*	.55**	.76**		.55**	.59**
	MV76:princ.eval.class control	.14	.35	.44**	.09	.54**	.93**	.35*	.50**		.26
	MV30:actl.princ.role enfrc sch rls	.18	.05	.24	₮00	.34	.07	.38*	.43*	.11	

Note: Upper triangle: high complexity, lower triangle: low complexity
*p < .05, **p < .01
Significance levels change as function of n (maximum n = 23).
Items with same superscript are parallel items.

schools (r's range from -.02 to .44) and inconsistently in hicomplex ones (r's range from -.12 to .52). Most importantly, parallel items are not more highly correlated with each other than with other items, an observation already made by Meyer, Scott, Cole and Intili (1978) with reference to a similar set of data.[4] In other words, parallel items (pertaining to the same issue but addressed to different respondents) show poor convergent validity.

The only exception of supervisory behavior is principals' account of the frequency with which they evaluate teachers in reading instruction (PV342). This item correlates between .19 and .52 (median r = .45) with teachers' perceptions of the principals' supervision in the hicomplex sample, but not in the locomplex one. This item seems the most indicative of formal supervision. Indeed, as we shall see below, it correlates .45 (<.05) with morale (MV84), and .40 to .75 with SDM in the hicomplex, but only .103 and .27 to .51 respectively in locomplex schools.

We can now turn to our major issue: how do supervisory behaviors relate to morale, SDM, and achievement in the two kinds of school settings? The differences between principals' and teachers' accounts of supervisory behavior may lie at the heart of the inconsistent findings across earlier studies. In other words, it may be that the relationship between supervision and morale, or SDM, depends on whose "reality" is considered (see Table 3).

The correlational patterns presented in Table 3 and in subsequent ones are zero order correlations. We found this to be the most suitable way of examining the data. We suspected that SES differences may alter the patterns and hence we partialled this variable out on appropriate occasions. However, attempts to partila out the contribution of SES, did not modify the differential patterns of zero-order correlations. Thus, we abandoned the examination of partial correlations.

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[4]Also other parallel items, not included in these analyses, as they were not included by Cohen et al., do not intercorrelate differently than other, non-parallel items. For example: principals' and teachers' reports on how informed principals are about disciplinary issues correlate only .14 to .27 (n.s.).

Table 3

Correlations Among Principal Accounts of Principal Supervision, Teacher Accounts of Principal Supervision, and Moral, Satisfaction with Decision Making and Achievement Variables, Separately for High Complexity and Low Complexity Schools

		HIGH COMPLEXITY SCHOOLS										LOW COMPLEXITY SCHOOLS									
		Princ. Accts. of Princ. Superv.				Teacher Accounts of Principal Supervision						Princ. Accts. of Princ. Superv.				Teacher Accounts of Principal Supervision					
		PV294 freq P.adv. re: tchng	PV295 freq P.disc. tchrs work	PV342 freq rdng tchrs eval	PV343 freq rdng prog eval	MV44 freq P.adv. on tchng	MV75 P.eval tchng subj mttr	MV47 P.well infrm disc prob	MV48 P.well infrm own instr	MV76 Princ. eval class contrl	MV30 P.role enfrc schl rules	PV294 freq P.adv. re: tchng	PV295 freq P.disc. tchrs work	PV342 freq rdng tchrs eval	PV343 freq rdng prog eval	MV44 freq P.adv. on tchng	MV75 P.eval tchng subj mttr	MV47 P.well infrm disc prob	MV48 P.well infrm own instr	MV76 Princ. eval class contrl	MV30 P.role enfrc schl rules
MORALE	MV84:satis.w/school	.19	.53**	.45*	.04	.12	.49**	.78**	.62**	.52**	.47**	.04	.06	.10	-04	.11	.25	.16	.43*	.21	.64**
	MV85:satis.w/princ.	.15	.39*	.40*	-10	.24	.60**	.75**	.74**	.56**	.44*	-26	-20	-05	-08	.04	.36*	.33	.46*	.27	.43*
	MV86:satis.w/t.work rel.	.29	.55**	.30	.26	.10	.34	.59**	.31	.45*	.34	.16	.11	.27	.07	.31	.26	.19	.28	.26	.64**
	MV87:satis.w/occup.	.19	.52**	.28	.10	.30	.67**	.64**	.73**	.58**	.43**	.07	-21	-15	.07	-01	-48**	-17	-21	-38*	.38*
	MVA68:effectvns as tchr	.13	.36	.20	.29	.39*	.24	.18	.19	.29	.30	.20	.08	.00	.45	-07	.15	.14	.17	-02	.22
SATISF. WITH DEC. MAKING	MVA18:satis.DM:prob.defined	.43*	.34	.63**	.01	.00	.40*	.59**	.35	.53**	.22	-00	.36	.47*	.31	.19	.40	.73**	.67**	.34	.62**
	MVA19:satis.DM:altrn clear	.34	.41	.68**	.14	-02	.29	.52**	.25	.43*	-00	.04	.31	.51*	.36	.28	.55*	.71**	.70**	.49**	.56*
	MVA20:satis.DM:all views hrd	.59**	.40	.75**	.34	.19	.54**	.57**	.44*	.48*	.14	-07	.25	.46	.41	.21	.48*	.70**	.65**	.42	.53*
	MVA21:satis.DM:implementation	.39	.13	.40*	.02	.33	.48*	.41*	.42*	.53**	.53*	-14	.30	.27	.31	.34	.50*	.60*	.62**	.39	.74**
	MVA22:satis.DM:eval of effectvns	.32	-01	.51*	.19	.63**	.72**	.50*	.72**	.61**	.34	-06	.35	.29	.50*	.40	.60*	.72**	.69**	.49*	.62**
ACHVMT	READ1:1st grade rdng 1975	.05	.40*	.05	-04	.07	.09	.20	.17	-05	.59**	-25	.01	-21	.02	-07	.23	-14	.12	.15	-00
	READ2:2nd grade rdng 1975	.11	.53**	.25	-15	-08	.22	.40*	.34	.17	.46*	.07	.28	.03	.01	-09	.27	-01	.17	.33	-07
	READ3:3rd grade rdng 1975	.16	.57**	.35*	-02	-08	.17	.35*	.29	.14	.43*	.08	.55**	.19	.07	.03	.41*	.15	.29	.45*	-18

Note: Left rectangle: high complexity schools, right rectangle: low complexity schools.
*p < .05, **p < .01
Significance levels change as function of n (maximum n = 23).

It is apparent that principals' accounts of their supervisory behaviors are generally much more strongly correlated with teachers' morale in the hicomplex schools than in the locomplex ones. In fact, there is no significant correlation between any two variables in the latter school sample. Thus, supervisory behavior, as perceived by principals, is supportive of teachers' morale (or is it the other way around?) in hicomplex schools. Although Cohen et. al. (1977, study "b") and Cohen and Miller (1979, study "c") did not analyze the morale measures, but SDM, our findings support their conclusions. When the relationships between principals' accounts of supervision and SDM are examined (as was originally done by Cohen et al.), a similar pattern emerges: supervision is generally better correlated with SDM among hicomplex schools.

The pattern is retained when teachers' accounts of their principals' supervisory behavior are correlated with their own morale. As before, there are more consistent positive correlations among the variables in hicomplex schools, than in locomplex ones. Again, Cohen et al.'s findings are supported even though we have replaced principals' accounts by teachers' accounts, and SDM by morale.

However, the pattern changes somewhat when teachers' accounts are correlated with SDM. Although these clusters of variables correlate with each other in both samples, the correlations are generally higher and more consistent in the locomplex sample (range in locomplex schools is .19 to .74, median r = .58; in the hicomplex the range is -.02 to .72; median r = .45). In 19 out of 30 comparisons the correlations in the locomplex schools are higher, and in only 9 comparisons are the correlations higher in hicomplex schools. This differential pattern of correlations is in some agreement with the findings of Cohen et al.'s first study, but is inconsistent with the findings in the two other studies.

The inconsistency among the earlier findings is now somewhat clearer: supervisory behavior, as reported by the principals, is indeed positively associated with morale and SDM in hicomplex schools; however, supervision as perceived by teachers is somewhat more supportive of SDM in locomplex schools. To explain such a reversal, a more detailed examination of the correlations seems to be needed. To this we turn next.

When we state that, generally, principals' supervision correlates somewhat more highly with morale in hicomplex schools we are "averaging" across items included in the original supervision index. The patterning of specific items is obscured. For example, principals' frequency of giving advice to their teachers (PV294) has little to do with either teachers' morale or SDM. Further examinations suggest that such behavior may carry an air of authority: principals' frequency of advice correlates .41 ($p.<05$) with hicomplex teachers' perceptions of how much their principals enforce rules (MV30). On the other hand, frequency of advice correlates -.40 ($p<.05$) with frequency with which principals provide resources (a "support" variable).

Alternatively, the frequency with which principals claim to discuss issues with their teachers (PV295) correlates positively with the latter's morale in hicomplex schools and with their students achievements. Relationships are positive but nonsignificant in locomplex schools (r's with morale range from .25 to .36). In hicomplex schools, the frequency of discussion correlates .39 ($p<.05$) with teachers' satisfaction with their principal (MV85), and .55 ($p<.01$) with their satisfaction with collegial relations (MV86), suggesting that this variable may relate to interaction among teachers as well as between teachers and their principal.

Turning now to teachers' accounts of supervision, we find that also their perceptions of amount of advice they are given has little to do with their morale. (However, the instrumental value of advice is suggested

by its correlation of .39, $p<.05$, with teachers' self-efficacy though $r = -.07$ for the locomplex schools). Note how strongly and systematically teachers' perceptions of their principals' informedness about discipline and instruction correlate with their morale and SDM in hicomplex schools and with only SDM in locomplex schools. Among the latter schools only principal informedness about instruction (not discipline) is related to morale (though the relationship is substantially weaker than for hicomplex schools).

The fact that principals' attributed informedness, much like their attributed evaluation of teaching and of classroom-control, generally does not correlate with locomplex teachers' morale suggests a yet unspecified difference between the two kinds of school. Is it possible that principals' personal involvement in ongoing affairs is unwelcomed in simple, traditional schools, while more impersonal policies and rules are more functional there?

While perhaps counterintuitive, given that small schools would allow for more personal interaction, there are a few shreds of evidence to support such a possibiity (and more evidence, as will be reported later on). Notice how strong and consistent are the correlations between teachers' perceptions of how much their principals enforce rules (MV30) with morale and SDM in the locomplex schools. In fact, attributed rule-enforcing behavior is the only variable that correlates significantly (.40, $p<.05$) with locomplex teachers' compliance with principals' requests; and it correlates .53 to .66 with their perception of school policies pertaining to students' behaviors. The latter variables correlate up to .68 ($p<.01$) with morale in locomplex schools. Hardly any relations of this kind appear in hicomplex schools.

It appears that what contributes to the morale of teachers in locomplex

schools may be impersonal organizational control, or teachers' perceptions of school policies and principals' enforcement of them; while among hicomplex schools, teachers' perception of personal involvement of principals in instruction and discipline appears to contribute to their morale. Why, then, the slight reversal with respect to teachers' SDM?

If our general hypotehsis is correct, we would expect that teachers' morale in locomplex schools is more contingent upon (a) the existence of school policies (it is, as will be reported later on), (b) upon decision-making processes that generate them, and (c) on the enforcement of rules, (see Talbert, 1979, for a rationale). Indeed, the attributed supervision variables that correlate more highly with locomplex teachers' SDM are principals' attributed informedness and rule enforcing behaviors (but not principals' evaluation of classroom control!). At the same time, these teachers' satisfaction with their schools and principals is more strongly related to SDM, particularly the implementation of decisions, than that of hicomplex teachers (see table 1).

The contradiction in the original studies can now be interpreted and the role of supervision clarified. As originally found, principals' accounts of their supervisory behaviors is more highly related to teachers' morale and SDM in hicomplex schools. At least this is the case with respect to principals' active involvement in evaluation and in personal discussions with teachers. Advice that principals give to teachers has no bearing on morale, though it shows a moderate relationship to SDM. The same holds true when teachers' reports are analyzed, although they are not highly correlated with principals' accounts. Further, teachers' perceptions of principals' informedness and evaluation activities are closely related to teachers' morale in hicomplex schools.

It seems, however, that the morale of teachers in locomplex schools is less affected by such personal involvement of their principals. What does relate to teachers' morale is the extent to which they perceive their principals to enforce rules. This principal role is closely related to implementing decisions; and, indeed, SDM is highly related to both morale and rule enforcement, as well as to principals' attributed informedness regarding instruction and discipline. Teachers' perceptions of their principals' effectiveness in using rules or policies and information to make and implement decisions appears fundamental to morale in the locomplex schools. The role of decision implementation in school governance appears relatively less central to teacher morale in the hicomplex schools.

Tying all this together we may state that supervision, in the form of principals' personal involvement, and particularly as perceived by teachers, is more important to teachers' morale in hicomplex schools. On the other hand, supervision in the form of impersonal management, as perceived by teachers, is more important to teachers' SDM in locomplex schools. For teachers in such schools, unlike for those in hicomplex ones, morale is more closely tied to SDM, which in turn is more contingent upon the perception of impersonal, formal management.

Thus, there is no genuine inconsistency in Cohen et al.'s findings. Rather, having collapsed variables that pertain to different phenomena, and having shifted from one group of respondents to another, fine-grain differences were lost. Indeed, supervision of one kind seems to be more crucial to the morale in hicomplex schools. But supervision of another kind appears more crucial to SDM in locomplex schools. Moreover, "supervision" as described by those who claim to supervise is not the same as "supervision"

for those who are supervised. It is the perception of events, that constitutes the "reality" in which they live.

One way to summarize the arguments we have advanced thus far is to examine all the interrelations among the variables in an overall "map." Using multiple dimensional scaling, we can project the correlations among all the variables under consideration onto a two-or three-dimensional space in which distances between points(measures)represent relative associations (Shepard, 1964). Adding to this analyses of hierarchical clustering, we can then point to clusters of variables that go together at one or another point of the analysis. (Johnson, 1967).

Figures 1a and 1b represent, respectively, the "maps" for the hicomplex and locomplex schools. Disregarding details unrelated to the present discussion, a few patterns become evident. First, note that in hicomplex schools, teachers' perceptions of principals' informedness and evaluation activities come close to their morale (the "central kernel" of the "maps"), which in turn comes close to the achievement variables. No directionality is given by the "map," but one might read it as suggesting that teachers' perceptions of supervision contributes to morale which in turn contributes to achievement. Morale, thus could be seen as a mediator between supervision and achievement.* In the locomplex schools perceived supervision, SDM and morale constitute one "island", while principals' accounts of supervision and achievement constitute another. The gap between the two is quite large.

Note also that in the hicomplex schools, SDM is "surrounded" by perceived supervision but on a different plain in a 3-D space. It is somewhat outside the chain of perceived supervision ⟷ morale ⟷ achievement. On

*(Note 1).

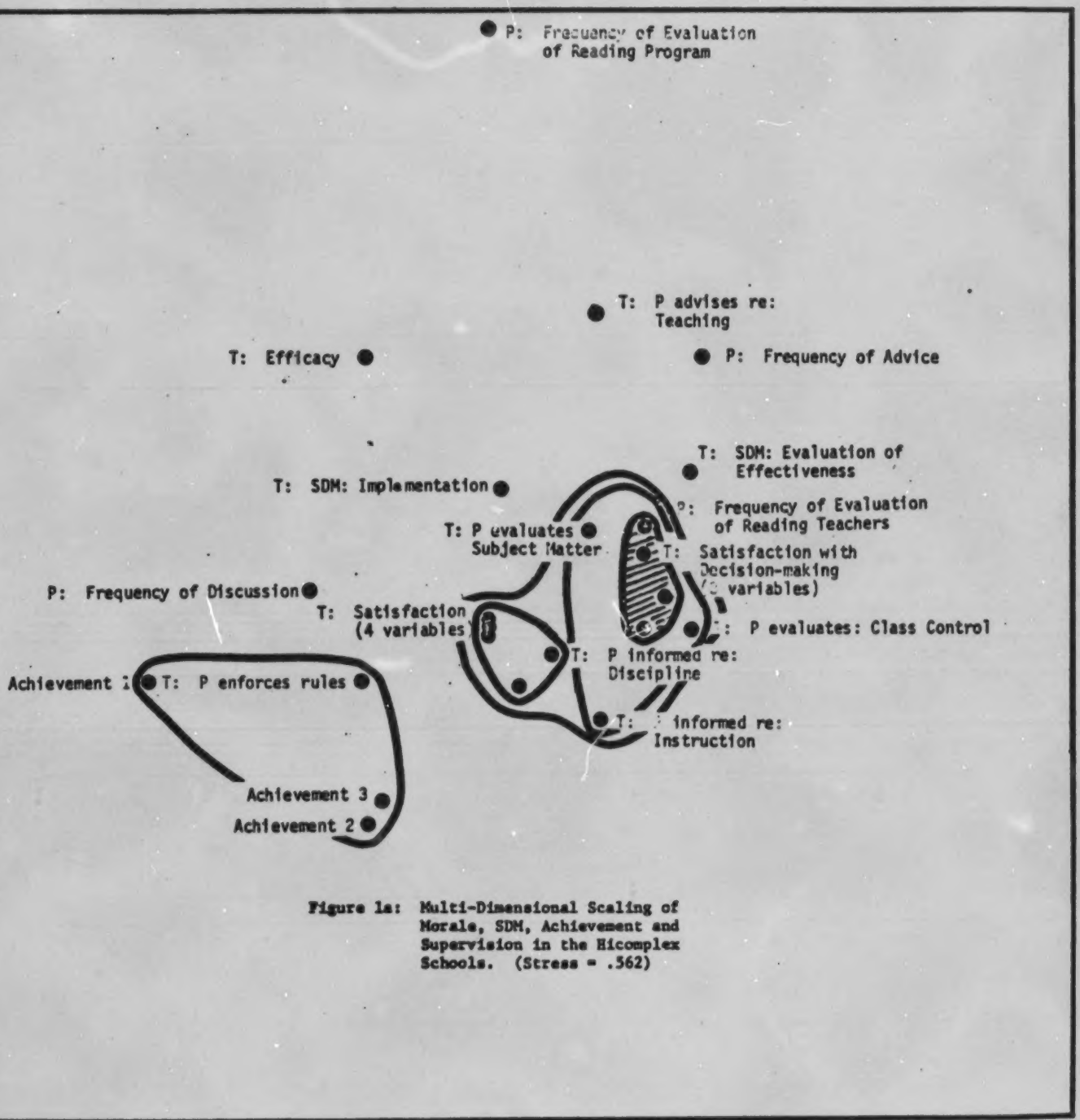
P: Frequency of Evaluation of Reading Program
T: P advises re: Teaching
T: Efficacy
P: Frequency of Advice
T: SDM: Evaluation of Effectiveness
T: SDM: Implementation
P: Frequency of Evaluation of Reading Teachers
T: P evaluates Subject Matter
T: Satisfaction with Decision-making
P: Frequency of Discussion
T: Satisfaction (4 variables)
T: P evaluates: Class Control
T: P informed re: Discipline
Achievement 1
T: P enforces rules
T: P informed re: Instruction
Achievement 3
Achievement 2

Figure 1a: Multi-Dimensional Scaling of Morale, SDM, Achievement and Supervision in the Hicomplex Schools. (Stress = .562)

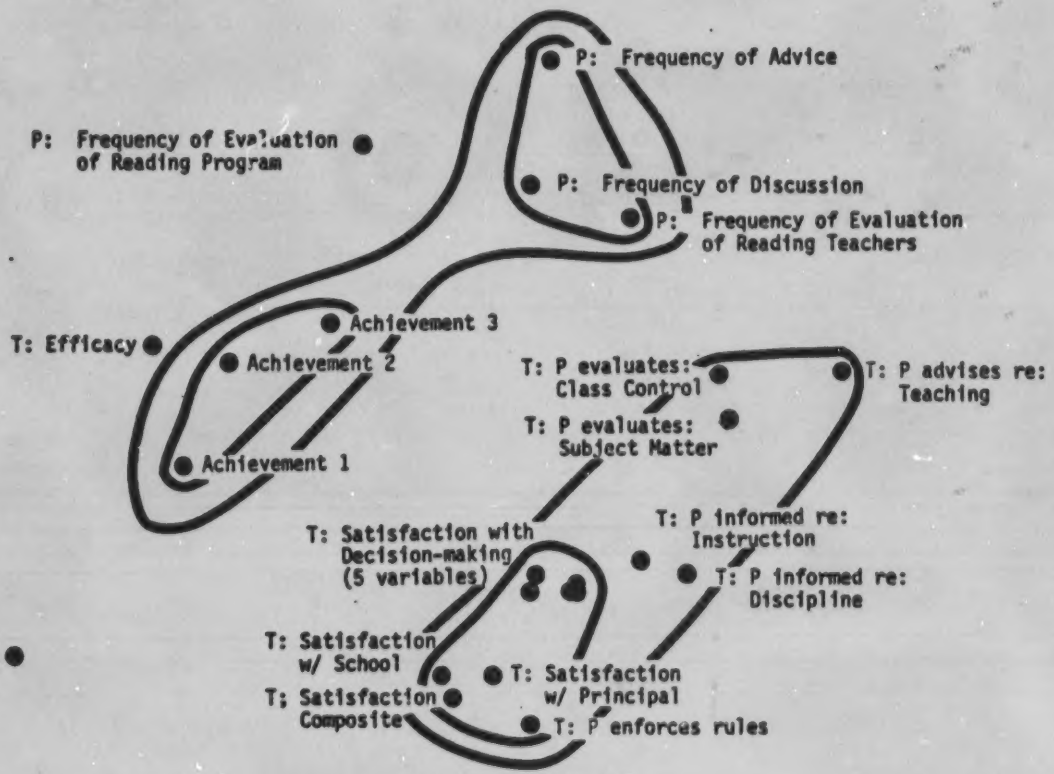
P: Frequency of Advice
P: Frequency of Evaluation of Reading Program
P: Frequency of Discussion
P: Frequency of Evaluation of Reading Teachers
Achievement 3
T: Efficacy
Achievement 2
T: P evaluates: Class Control
T: P advises re: Teaching
T: P evaluates: Subject Matter
Achievement 1
T: Satisfaction with Decision-making (5 variables)
T: P informed re: Instruction
T: P informed re: Discipline
T: Satisfaction w/ Occupation
T: Satisfaction w/ School
T: Satisfaction w/ Principal
T; Satisfaction Composite
T: P enforces rules

Figure 1b: Multi-Dimensional Scaling of Morale, SDM, Achievement and Supervision in the Locomplex Schools. (Stress = .468)

the other hand, in locomplex schools, SDM mediates, so to speak, between perceived-supervision and morale. SDM, rather than morale, is the "kernel" of the "map." This is consistent with our hypothesis according to which decision-making is more important to teachers' morale in locomplex than in hicomplex schools.

Further, notice the role that the attribution of principals' informedness plays in both settings. It contributes to SDM in locomplex schools and to morale in hicomplex ones. In addition, the attribution of rule enforcement contributes mainly to morale in locomplex schools, further supporting our hypothesis that the morale in locomplex schools is contingent on formal procedures. Attributed rule enforcement contributes in the hicomplex schools to achievement, more than to morale, suggesting that it serves there a direct instrumental role, rather than a psychological one.

Finally, very much in line with our emerging hypothesis, the frequency with which principals discuss issues with teachers, has no bearing on their morale in locomplex schools. It is, however, related to third grade achievement ($r=.55$), suggesting that it accomplishes an instrumental function. In the hicomplex schools, frequency of discussion is clearly related to rule enforcement, hinting at the way rules are perceived to be enforced in hicomplex schools (through discussion). It is also quite close to teachers' morale, suggesting that it serves also a psychological function.

Additional analyses: impersonal control

Thus far we have focused our attention only on supervision variables as they relate to morale, SDM and achievement in complex and uncomplex schools. However, the analyses would not be complete, nor could we test our emerging hypothesis without examining more data, particularly inasmuch as these data

were partly analyzed in the original studies. First, then, let us turn to the role played by the explicitness of school policies in hicomplex and lo-complex schools.

The existence of school policies was conceptualized following Van de Ven and associates (1976) as a measure of impersonal control (Cohen et al., 1977). Since more complex schools experience greater uncertainties, greater choice, interdependence and the like, it was expected that impersonal control would be of more importance to their morale (i.e., SDM) than to the morale of less complex schools. To an extent, evidence was found to support this hypothesis (Study "b", Cohen et al., 1977; Study "c", Cohen and Miller, 1979).

However, our emerging hypothesis points to an alternative prediction according to which it is the less complex school whose morale and particularly SDM benefit from the experience of explicit, impersonal policies. The more complex school, perhaps because of the greater uncertainty it faces, benefits more from personal exchanges and personal, informal, involvement in ongoing events.

The original studies used teachers' reports on the explicitness of school policies. This, of course, is justified as, indeed, policies "exit" only to the extent that teachers are aware of their existence. But as also principals' accounts are available (although not used in the original studies), their inclusion in secondary analyses seems warranted. Furthermore, it is not impossible that the conception of "policies" is not the same for teachers and principals. Hence, teachers' and principals' perception of policies may differentially contribute to morale or achievement.

The original questions pertained to the degree to which there are explicit school policies (not the way they are implemented) about curriculum, instruction, student conduct, reporting student progress student absences and

student evaluation criteria. Most of these questions were asked of both principals and teachers.

Unlike the absence of mean differences in supervision, morale, SDM and achievement, noted earlier, there are two mean differences between hicomplex and locomplex schools with respect to the explicitness of policies. But these, are not consistent. Principals in locomplex schools report having a more explicit policy concerning student absences ($t = -3.18$, $df = 43$, $p<.01$), while teachers in locomplex schools report having in their schools a more explicit policy concerning the reporting of students' progress ($t = 2.16$, $df = 29$, $p<.05$). No other mean differences were found.

Table 4 shows the correlations within and across teachers' and principals' accounts in both settings. As can be noted, principals' accounts in neither setting intercorrelate highly. Yet, within locomplex schools one can identify two clusters of variables: those pertaining to curriculum and instruction ($r = .48$, $p<.01$), and those pertaining to students' disciplinary behavior and progress (r's = .46 and .65, $p<.05$ and $p<.01$ respectively). No such clear cut division is evident in hicomplex schools, in which the presence of negative correlations suggests that these schools are less overall policy-governed.

On the other hand, teachers' perceptions of policies are somewhat better intercorrelated in hicomplex schools, although no clustering into kinds of policy is evident. Explicitness of policies concerning instruction and criteria for student evaluation correlate with most other items. There is a similar, but weaker pattern in locomplex schools: explicitness of instructional policies and of handling student absences correlate with most other items. To an extent, then, teachers in locomplex schools tend to reflect their principals' accounts of school policies.

TABLE 4

Correlations Among Principal Accounts of School Policies and Teacher Accounts of School Policies Variables, Separately for High Complexity and Low Complexity Schools.

		PRINCIPAL ACCOUNTS OF SCHOOL POLICIES						TEACHER ACCOUNTS OF SCHOOL POLICIES						
		PV249[a]	PV251[b]	PV259	PV253[c]	PV255[d]	PV257	MVA2[a]	MVA3[b]	MVA4[c]	MVA5	MVA6[c]	MVA7	MVA9
Princ Accts of Schl Policies	PV249[a]:school policies:curricln		.44*	-.27	.38*	.23	.04	.32	-.17	.09	.17	.36	.15	-.04
	PV251[b]:school policies:instruc meths.	.48**		-.18	.24	.01	.08	-.23	-.46*	.04	-.27	-.45*	.15	-.37*
	PV259[e]:school policies:chron absences	.26	.16		-.14	.08	.43*	.13	.31	.10	-.04	-.03	.01	.10
	PV253[c]:school policies:stdnt conduct	-.09	.22	-.02		.26	-.48**	.39*	-.02	-.16	-.28	.32	.09	.21
	PV255[d]:school policies:stdnt progress	-.00	.02	-.01	.46*		-.05	.13	.20	.14	-.05	.27	.17	.20
	PV257:school policies:learn disabil	.03	.11	-.14	.01	.65**		-.46*	-.21	.25	.19	-.24	-.20	-.30
Tchr Accts of Schl Policies	MVA2[a]:school policies:curricln mat	.23	.09	-.12	.26	.23	.18		.69**	.22	.29	.55**	.43*	.73**
	MVA3[b]:school policies:instruction	.62**	.56*	.38	-.15	.04	-.03	-.05		.45*	.46*	.33	.59**	.75**
	MVA4[c]:school policies:st cond,class	.59*	.74**	.00	-.25	-.21	-.03	-.34	.57*		.74**	-.03	.40*	.43*
	MVA5:school policies:st cond,grnds	.46*	.42	.46*	-.18	-.04	.09	-.01	.29	.41		.28	.38	.48*
	MVA6[d]:school policies:stdnt prog	.47*	.61*	.44	-.10	-.06	-.41	.10	.65**	.37	.39		.27	.31
	MVA7[e]:school policies:stdnt absences	.59*	.64**	.35	-.29	-.23	-.41	-.39	.50*	.79**	.47*	.50*		.53*
	MVA9:school policies:stdnt eval	.43	.36	.17	-.06	.16	.15	.27	.48*	.15	.44	.63**	.19	

Note: Upper triangle: high complexity schools, lower triangle: low complexity schools
*p < .05, **p < .01
Significance levels change as function of n (maximum n = 23).
Items with same superscript are parallel items

Indeed, while in hicomplex schools principals' and teachers' perceptions of even the same policies are either unrelated or negatively related, there is better correspondence of perceptions in the locomplex schools. The correspondence is most clearly evident with respect to principals' accounts of policies pertaining to curricular and instructional affairs. (Such differences between hicomplex and locomplex schools invite a more thorough discussion of the loose coupling hypothesis to which we will attend in a later part of the report).

Thus, it seems that principals' perceptions of their school policies in locomplex schools is differentiated into "instructional" and "student-oriented" policies, a differentiation that is partly retained by the teachers in the same schools. Principals in hicomplex schools account for more "loosely coupled" policies; their policies are not related to each other. But the teachers perceive the policies quite differently, attributing dominance to two kinds of policies, something that is absent from their principals' accounts; school policies in teachers' eyes, are far less "loosely coupled." Next let us turn to the relationships between the accounts of policies, teachers' morale, SDM, and students' achievements (table 5).

The first thing to note is that while the existence of explicit policies concerning curriculum (PV249) correlates positively (up to .62) with the morale of teachers in locomplex schools, it does not correlate at all with teachers' morale in hicomplex schools (r's range from -.21 to -.03). This contradicts the original expectations according to which hicomplex schools need for their morale more explicit policies. This finding supports, however, the alternative hypothesis which emerged from our preceding analyses. However, before reaching any premature conclusions, it should be remembered that these correlations are based on principals' perceptions which, in hicomplex schools, are not matched by those of teachers.

Correlations Among Principal Accounts of School Policies, Teacher Accounts of School Policies and Morale, Satisfaction with Decision Making and Achievement Variables, Separately for High Complexity and Low Complexity Schools

HIGH COMPLEXITY

		Princ. Accts. of School Policies Re:						Teacher Accts. of School Policies Re:						
		PV249 curric	PV251 instrc	PV259 absnc	PV253 stdnt cond	PV255 stdnt prog	PV257 learn disab	MVA2 curric	MVA3 instrc	MVA4 stdnt cond class	MVA5 stdnt cond grnds	MVA6 stdnt prog	MVA7 absnc	MVA9 stdnt eval
MORALE	MV84:satis.w/school	▼21	▼07	▼12	▼25	.12	.08	▼06	▼00	.18	▼17	.10	▼14	▼15
	MV85:satis.w/princ.	▼22	.01	▼43*	▼14	▼04	▼05	▼21	▼20	.14	▼06	▼04	▼14	.05
	MV86:satis.w/t.work rel.	▼04	▼08	.31	.01	.33	.21	.15	.09	.23	▼17	.16	▼22	▼01
	MV87:satis.w/occup.	▼03	.09	▼38*	.08	▼09	▼07	.16	▼03	.13	▼18	.16	▼10	.24
	MVA68:effctvns as tchr	▼04	▼24	.40	.01	▼17	.22	.37	.41*	.52*	.24	.23	.23	.30
SATISF. WITH DEC. MAKING	MVA18:satis.DM:prob.defined	▼10	.20	▼03	▼10	.24	.22	▼31	▼14	.36	▼06	▼18	▼05	▼22
	MVA19:satis.DM:altrn clear	▼27	.18	.11	▼12	.24	.24	▼37	▼15	.28	▼25	▼27	▼08	▼28
	MVA20:satis.DM:all views hrd	▼12	.34	▼09	.03	.24	.08	▼26	▼24	.28	▼19	▼17	▼04	▼26
	MVA21:satis.DM:implementation	.14	.03	.09	▼06	.20	.10	.17	.30	.55**	.35	.27	.36	.17
	MVA22:satis.DM:eval of effectvns	.03	.17	▼18	.35	.41*	▼34	.31	.39	.61**	.24	.13	.34	.37
ACHMT	READ1:1st grade rdng 1975	▼07	▼34	.14	▼19	▼21	.14	▼01	.00	.09	.29	.40*	▼09	▼13
	READ2:2nd grade rdng 1975	▼19	▼15	▼04	▼38*	▼20	.22	▼48*	▼36	▼06	.03	▼07	▼33	▼34
	READ3:3rd grade rdng 1975	▼23	▼14	.05	▼29	▼06	.22	▼57**	▼41*	▼09	▼07	.02	▼27	▼49*

LOW COMPLEXITY

		Princ. Accts. of School Policies Re:						Teacher Accts. of School Policies Re:						
		PV249 curric	PV251 instrc	PV259 absnc	PV253 stdnt cond	PV255 stdnt prog	PV257 learn disab	MVA2 curric	MVA3 instrc	MVA4 stdnt cond class	MVA5 stdnt cond grnds	MVA6 stdnt prog	MVA7 absnc	MVA9 stdnt eval
MORALE	MV84:satis.w/school	.56**	.20	.11	▼27	▼24	.00	▼26	.44	.69**	.40	.13	.60*	.33
	MV85:satis.w/princ.	.62**	.07	.17	▼44*	▼07	.23	.00	.42	.48*	.55*	.09	.36	.26
	MV86:satis.w/t.work rel.	.48**	.32	▼00	▼29	▼31	.10	▼07	.12	.40	.09	▼08	.33	.23
	MV87:satis.w/occup.	.01	.12	▼14	.05	.22	.33	.34	.03	.10	▼45	▼07	▼07	.21
	MVA68:effctvns as tchr	.20	.10	▼47	.09	▼00	▼06	▼16	.28	.50*	▼16	.00	.21	.07
SATISF. WITH DEC. MAKING	MVA18:satis.DM:prob.defined	.64**	.46	.61*	▼45	▼52	▼26	▼21	.55*	.56*	.61*	.37	.60*	.09
	MVA19:satis.DM:altrn clear	.67**	.36	.43	▼47	▼57*	▼22	▼10	.44	.52*	.53*	.22	.49*	.02
	MVA20:satis.DM:all views hrd	.66**	.36	.54*	▼42	▼49*	▼29	▼06	.48*	.46	.60*	.30	.52*	.07
	MVA21:satis.DM:implementation	.83**	.46	.58*	▼34	▼32	▼20	▼06	.74**	.46	.49*	.52*	.56*	.46
	MVA22:satis.DM:eval of effectvns	.84**	.48*	.32	▼42	▼45	▼09	.13	.71**	.50	.37	.41	.42	.33
ACHMT	READ1:1st grade rdng 1975	.20	▼61**	▼11	▼29	▼13	▼14	.05	.26	.10	▼47	▼20	.17	▼10
	READ2:2nd grade rdng 1975	.17	▼33	▼21	▼05	▼08	▼15	▼20	.18	.20	▼31	▼23	.20	▼13
	READ3:3rd grade rdng 1975	.21	▼16	▼15	▼17	▼20	▼18	▼41	.39	.44	▼14	▼06	.45	▼17

Note: Left rectangle: high complexity schools, right rectangle: low complexity schools
*p<.05, **p<.01
Significant levels change as function of n (maximum n = 23).

The second thing to note is that the existence of explicit policies concerning students' classroom conduct and progress, as reported by principals (PV253, PV255), tend to be negatively correlated with teacher morale in locomplex schools, particularly their satisfaction with their respective principals (MV85). No such correlations are found in hicomplex schools.

On the other hand, principals' reports of policies concerning students' absences (PV259) correlate negatively with morale in hicomplex schools and not at all in locomplex ones. To complicate the pattern further, such policies correlate positively with teachers' self-efficacy in hicomplex, and negatively in locomplex schools. It is difficult to interpret such seemingly confusing patterns without examining the whole array of relationships.

Next we should note the generally high correlations between principals' accounts of explicit policies and the SDM of teachers in locomplex schools. Nothing of the kind exists in hicomplex schools! Note, however, that the correlations in the locomplex schools are of two very clearly distinguishable kinds: the existence of explicit policies concerned with curriculum, instruction and students' absence correlate positvely and highly with SDM, while those concerned with students' conduct and progress correlate negatively with SDM.

At this point in the analysis two tentative conclusions can be reached. The first is that contrary to the original hypothesis of Cohen et al., impersonal control as measured by principals' accounts of school policies does not contribute more to teachers' morale or SDM in hicomplex schools. If anything, the converse is the case. Second, in the presence of such a diversity of correlational patterns, there is no validity to the much too general question about the relationships of "school policies" with teachers' morale or SDM. Different policies relate in different ways to teachers' morale and SDM.

Turning next to teachers' perceptions of the existence of explicit policies we can immediately note that they are far better correlated with SDM, and to a lesser extent also with morale, in the locomplex schools. Only a few correlations are found in the hicomplex group. The difference in correlational patterns is sufficiently striking to warrant rejection of the original hypothesis which linked policies with morale and SDM in hicomplex schools. Unlike the diversity of positive and negative correlations in locomplex schools noted earlier, correlations of SDM with teachers' perceptions of policies are all positive. The earlier distinction between instructional policies (positive correlations with SDM) and student-conduct and progress policies (negative ones), has vanished.

This makes some sense: Since principals' perceptions concerning curricular and instructional policies were partly matched by teachers' perceptions, it is little wonder that if principals' accounts correlated positively with morale and SDM, so should also teachers' accounts. But what about the policies pertaining to students' conducts and progress? Why should principals' accounts correlate negatively with teachers' morale and SDM while teachers' accounts of the same policies correlate positively with morale and SDM? Could it be that explicitness of these policies mean different things to different parties?

It seems that a partial answer can be found when the relationships between principals' accounts of various policies are correlated with support that teachers attribute to their principals.[5]

In locomplex schools, principals' accounts of instructional policies (PV251) correlate positively (up to .46) with teachers' attributions of support.

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[5]In the original studies the attribution of support was partialled out to examine the "net" contribution of policies to SDM. By doing so, sight of the meanings ascribed to policies was lost.

But principals' accounts of student-conduct and progress policies correlate negatively with attributed support (-.36 to -.62, all significant). In other words, principals' policies concerned with instruction are seen by locomplex teachers as "support", while principals' policies concerned with student-conduct and progress are seen as the negation of support. Little wonder that such policies correlate negatively with teachers' morale and SDM.

Do teachers in hicomplex schools assign similar meanings to the existence of explicit policies, as rendered by principals? There are only a few correlations between principals' accounts of the existence of explicit policies and teachers' attributions of support to principals. Policies concerning students' absences and those concerning the handling of learning disabilities correlate -.63 ($p<.01$) and -.44 ($p<.05$) with the extent to which principals are perceived as providing support to teachers. Policies concerned with absences correlate also -.34 ($p.<.05$) with the perception of how much the principals provide helpful advice. Finally, the existence of a policy about curriculum correlates -.35 ($p = .05$) with the perception of how many resources that principal provides.

Notice the rather striking differences between the two samples. Curriculum and instructional policies correlate positively with "support" in locomplex schools and tend to be negatively correlated in hicomplex ones. On the other hand, student conduct policies correlate negatively with "support" in locomplex schools and not at all in hicomplex ones. Finally, policies concerning absences and learning disabilities correlate negatively with "support" in hicomplex schools and not at all in locomplex ones.

We can summarize this complex pattern graphically as follows:

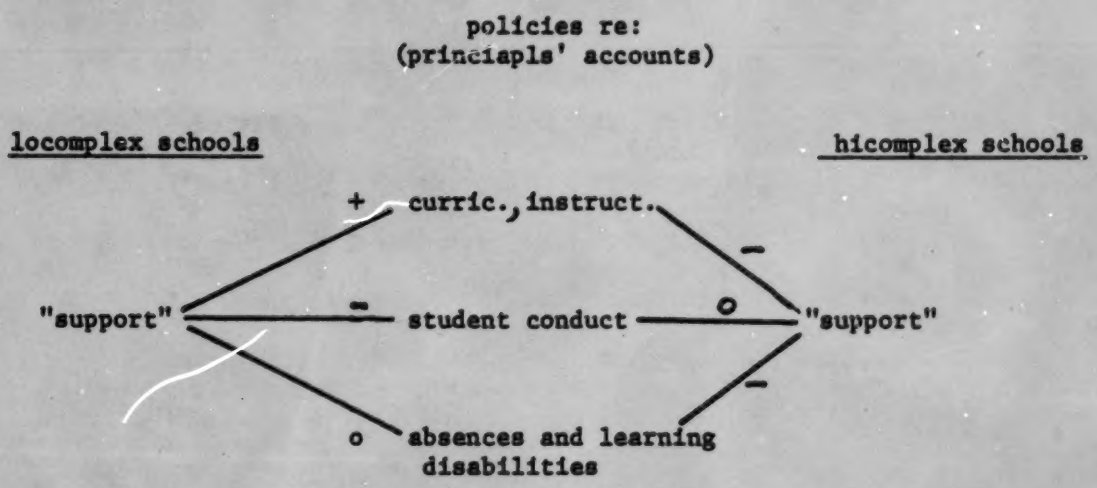

Fig. 2: Relations of Policies (principals' accounts) and attributed support.

Quite clearly, "impersonal controls" mean very different things to teachers in hicomplex schools and locomplex schools. But all this pertains to principals' accounts. How do teachers' perceptions of these policies relate to their perception of "support"

The patterns of relations is presented in figure 3.

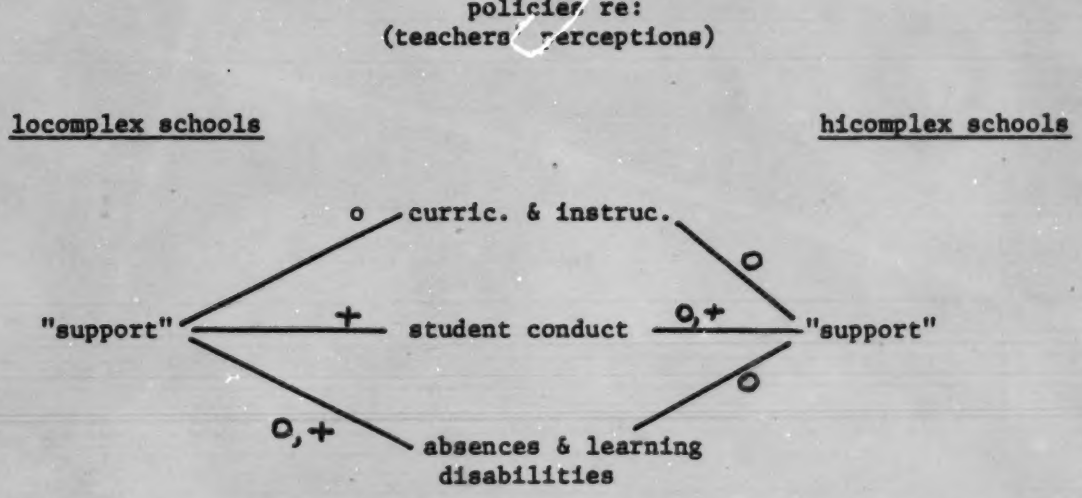

Fig. 3: Relations of policies (teachers' accounts) and attributed support.

Although figures 2 and 3 reflect, as one would expect, the little correspondence between teachers' and principals' accounts of policies, there is one clear reversal that merits attention. It is the relationship between the existence of policies re students' conduct and progress and "support" in locomplex schools: principals' accounts correlate negatively with support (as it did with morale and with SDM), while the same policies, as seen by the teachers, correlate positively with "support" (and with morale and SDM). It becomes clear that principals' accounts of policies re students' conduct play a very special role in locomplex schools: unlike most other policies, they correlate negatively with teachers' morale, with teachers' SDM, and with teachers' attribution of "support". No such pattern is observable in hicomplex schools.

At this point, we wish to venture a new hypothesis: the behaviors of principals which the principals see as "policies" regarding students' conduct, are seen by locomplex teachers as personal and unwarranted interventions into affairs better left to the teachers. On the other hand, what the teachers see as "policies" is indeed, in their eyes, impersonal control which they welcome as "support" more than their colleagues in hicomplex schools.

Obviously, this is a post hoc hypothesis and cannot be tested with the same data which suggested it in the first place. However, there is other supporting evidence. Policies re students' conduct and progress correlate negatively (-.36 to -.45, $p<.05$) with teachers' perceptions of principals' informedness in the locomplex but not in the hicomplex schools. In only locomplex schools, such policies correlate negatively with the extent to which teachers see their principals as enforcing rules. Perhaps most

revealing, in the locomplex schools, students' conduct policies correlate negatively (-.38 and -.39) with teachers' self-reported compliance with their principals' requests to supervise students. Similar, but positive correlations are found in the hicomplex schools.

Thus, a tentative conclusion that we can reach is that the existence of explicit policies in schools (impersonal control) as perceived both by teachers and principals is far more crucial to the various manifestations of morale in locomplex schools. However, policies re students' conduct and progress, as reported by principals, are seen by teachers in such schools as unwarranted intrusions and relate negatively to morale. Other policies are apparently welcome and are seen, in part, as "support." It is the case that locomplex schools, rather than the hicomplex ones, benefit from policies, provided the teachers' autonomy of handling their own students is not violated.

A similar pattern appears also in hicomplex schools with respect to policies pertaining to students' absences and to the handling of learning disabilities. Such policies, as described by principals, are perceived to negate support, correlate negatively with teachers' morale, and strongly and negatively (Median r = -.48) with teachers' self-reported compliance with their principals' requests.

Thus, while policies play a generally more important role in locomplex schools, each kind of school setting has got the policies which are considered as unwarranted interferences: policies re students' conduct and progress in locomplex schools and policies re students' absences and learning disabilities in hicomplex ones.

As the data were not orignally collected for the purpose of examining such quite unexpected differences, we cannot find in these data anything that might offer an explanation of our findings. At this point we can only speculate. Our speculation is that in more traditional schools, in which

one teacher teaches one class behind closed doors (typical of the locomplex schools), teachers function better when left alone to do their jobs within a general framework of--what they consider to be--impersonal policies. Such policies allow them to exercise their autonomy within known boundaries. Indeed, other analyses show that teachers' reports of how much their principals allow them to teach in their own ways correlate with morale and SDM far higher in locomplex schools (median r for locomplex schools = .58, and for hicomplex schools = .37).

Larger schools, with many open-space classrooms, team teaching, volunteer teachers and a large variety of teaching materials (the hicomplex schools), although facing much uncertainty, also face much fluidity: everything moves and changes constantly. Under such conditions, stable and impersonal policies are of little help. Instead, informal exchanges, mutual support, discussions and feedback based on evaluation, appear to facilitate morale. Indeed, only in such schools does morale, rather than good decision-making correlate with achievements.

Within this framework, there are two consistent exceptions. Although policies are welcome mainly in locomplex schools, principals' behaviors which they dub as "policies" but which teachers perceive as intrusions into their closed-door classrooms have a negative effect. In hicomplex schools, in which policies are far less consequential anyway, these policies that pertain to teachers' autonomous regions--students' absences and learning disabilities--have a similar negative effect. It remains to be shown why discipline and student progress in locomplex schools, and students' absences and disability are so strongly guarded against interventions.

Finally, we devote out attention to the relations among impersonal control variables and students' achievement (table 5). There are two out-

TABLE 6

Correlations Among Use of Ad Hoc Committees, Teacher Collaboration, Morale, Satisfaction with Decision Making, Achievement, and Teacher Accounts of Principal Support Variables, Separately for High Complexity and Low Complexity Schools

		HIGH COMPLEXITY						LOW COMPLEXITY					
		Ad Hoc Committees/Teacher Collaboration						Ad Hoc Committees/Teacher Collaboration					
		PV113	PV114	PV115	PV215	MV15	T2MCOL1	PV113	PV114	PV115	PV215	MV15	
Ad Hoc Comm. Tchr Collaboration	PV113:ad hoc comm:instructional problems												
	PV114:ad hoc comm:school/community problems	.61**						.70**					
	PV115:ad hoc comm: adminis. problems	.57**	.56**					.74**	.81**				
	PV215:amt. teacher collaboration	.13	.27	.00				.04	.14	.02			
	MV15: joint reading	▿44**	▿07	.02	▿04			.12	.07	.20	▿15		
	T2MCOL1:extent other teachers considered	▿12	.04	.29	.16	.58**		.00	▿04	▿08	▿12	.34*	
Morale	MV84:satisfaction with school	.17	.13	▿01	.25	.06	.30	▿07	.00	▿17	.38	▿25	▿09
	MV85:satisfaction with principal	▿04	.03	▿36*	.32	.18	.34*	▿26	▿32	▿33	.16	▿21	▿32*
	MV86:satisfaction with working relations	.01	▿05	.16	.12	.22	.26	.11	.13	.02	.40*	▿08	▿18
	MV86:satisfaction with occupation	.10	.17	.06	.27	.31	.50**	▿13	▿10	▿03	.31	▿22	▿16
	MVA68:effectiveness as teacher	.05	▿16	.22	.04	▿23	.17	.04	.03	.18	.31	▿12	▿33
Satis. with Dec. Making	MVA18:Satis. D.M:problems defined	.24	.09	▿01	.00	.61**	▿05	▿04	.00	.00	.03	.21	.19
	MVA19:Satis. D.M:alternatives clear	.19	.12	.01	.03	.60**	▿09	▿11	▿09	▿04	▿05	▿02	.01
	MVA20:Satis. D.M:all news heard	.17	.12	.14	.00	.55**	.22	▿10	▿05	▿02	▿00	.10	.09
	MVA21:Satis. D.M:implementation	.32	▿18	.15	▿05	.57**	.18	▿07	▿26	▿26	.34	.05	.39
	MVA22:Satis. D.M:evaluation of effectiveness	.21	▿11	.13	.08	.43*	.19	▿31	▿38	▿33	▿15	▿11	.25
Achievement	READ1:first grade reading 1975	▿05	▿20	▿17	.02	▿08	.15	▿43*	▿29	▿46*	.23	▿46*	▿22
	READ2:second grade reading 1975	▿00	▿;6	▿34*	.23	.01	.08	▿05	.01	▿13	.19	▿36*	▿04
	READ3:third grade reading 1975	.06	▿13	▿21	.14	.11	.13	▿00	.11	▿13	.16	▿19	.10
Tchr Account of Prin. Supp.	MV28:actual prin.role,work with teachers	▿04	▿25	▿23	.23	.20	.42*	.02	.11	.13	▿17	.18	.04
	MV43:freq. prin. provides resources	▿07	▿34*	▿46**	.13	▿26	▿05	▿25	▿10	▿11	▿01	.06	▿07
	MV73:freq. helful advice from principal	▿18	▿36	▿29	▿13	.26	.33	▿09	▿00	.03	▿10	.18	.23

Note: Left rectangle: high complexity schools, right rectangle: low complexity schools

* $p < .05$, $p < .01$

Significance levles change as function of n (maximum n=23)

standing things to note. First, there is general paucity of relations in both groups. Second, there is a negative tendency of the few significant correlations. Consistently across the two school settings, principals' claim for having an explicit instructional policy correlates negatively with first grade reading achievements-- -.34 ($p = .05$) in hicomplex, and -.60 ($p<.01$) in locomplex schools.[6] The achievement of second graders in hicomplex schools are also negatively related (-.38, $p<.05$) to the existence of an explicit policy re student conduct.

Teachers' perception of policies re curriculum and instruction in hicomplex schools are negatively related to second and third grade achievements (-.36 to -.57!). The perception of such policies in locomplex schools has no bearing on achievements. Similarly, the perception of explicit policies re criteria for student evaluation correlates negatively, in hicomplex schools, with students' achievements (-.33 and -.49), but not in locomplex schools. Overall, then, achievements in hicomplex schools are somewhat more negatively related to policies. This tends to provide another shred of evidence to support our hypothesis that hicomplex schools, unlike locomplex ones, fare less well the more impersonal controls they exercise.

Additional analyses: Coordination and Cooperation

Equipped with the newly emerging hypothesis we can now turn to test it with data that pertain to more formal coordination in the school (the employment of

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[6]The fact that such a policy is an asset to teachers' morale in locomplex schools but a liability to achievement is easily explained by the fact we observed earlier that in these schools morale and achievement are not well correlated.

Ad Hoc committees, AHC's), and to less formal measures of interdependence and collegial relations. In doing so, we continue to employ the same variables (but not the same anaylses) of Cohen et al.

We would expect, on the basis of our division into hicomplex and locomplex schools, to find more collegial relations in the former (as indeed we found). But it does not follow from our division that the two kinds of schools should differ with respect to the employment of Ad Hoc committees (AHC's). And they did not, suggesting that while hicomplex schools employ more informal exchanges, they do not make more use of AHC's, in spite of their greater complexity. But then, as the data for both kinds of schools suggest, AHC may be of little benefit anyway, and even be negatively related to other variables (achievement!).

The relations among the use of AHC's, collegial relations, morale, SDM, support, and achievement are presented in table 6. (The three items pertaining to AHC are from principals' questionnaires; one of the three items pertaining to collegial relations is a principal-response, denoted by a P, while the others are a composite of a number of interrelated teachers' responses, and another, single item pertaining to joint teaching; both are denoted by T).

There are a number of revealing differences between the two school settings, all of which are in accordance with our hypothesis. Let us look first at the use of AHC's. The use of AHC's on administrative matters (PV115) correlates <u>negatively</u> with teachers' satisfaction with their principals in both groups (-.36 and -.33); the use of AHC's tends also to correlate negatively with attributed support in hicomplex and less so in locomplex schools. In both kinds of schools, but particularly in locomplex ones, the use of AHC's correlates negatively with some of the achievement variables.

Even more revealing are the relations with teachers' reports on joint teaching (MV15) and the overall measure of collaboration (T2MC01). The latter correlates positively with some morale variables (.17 to .50), and the former with all the SDM variables (.43 to .61) in the hicomplex schools. Nothing of the kind is found in locomplex schools, suggesting that collegial relations and joint teaching are far more crucial for morale in hicomplex schools. Such collegial relations have no bearing on achievement in hicomplex schools, but they correlate negatively with achievement (-.19 to -.46) in locomplex ones. Thus in locomplex schools, achievements are negatively affected by both AHC's and collegial work.

The observation that collegial relations, in locomplex schools, are unrelated to morale (and positvely related to it in hicomplex schools) is in line with our emerging hypothesis. Also their negative contribution to achievements is congruent with the hypothesis. But why does the use of AHC's, a far less personal mode of collaboration, correlate negatively with first-grade reading in locomplex schools? If, as we hypothesize, locomplex schools benefit from impersonal governance, why such negative correlations?

Again, the answer seems to lie in the meanings teachers ascribe to AHC's. The use of AHC's in locomplex schools (principals' accounts) correlates positively (.32 to .50) with what the principals perceive as their policies re students' conduct (but not with other policies). The latter, as earlier observed, are possibly seen by teachers as intrusions. On the other hand, and most revealing, the use of AHC's correlates negatively (up to -.47) with what teachers perceive as policies, which, as we have seen, are beneficial to such locomplex schools. Thus, it seems that AHC's are for teachers in locomplex schools, akin to principals' policies, that is--associated with intrusions. Indeed, the use of AHC's correlates negatively

with teachers' reports on their compliance with principals' requests! (-.16 to -.64, median r = -.35). Compliance is unrelated to the use of AHC's in hicomplex schools.

This does not imply that AHC's benefit hicomplex schools. Also teachers in such schools attribute negative meanings to AHC's in particular to committees dealing with the school's relations with the community, and school's administrative issues. AHC's of both kinds correlate negatively with support attributed to principals' and with second-grade achievement. No wonder, therefore, that AHC's do not contribute to morale (even contribute negatively to satisfaction with the principal) or to SDM.

All told, AHC's do not benefit either one of the two school settings, possibly because they are seen as akin to policies (hence undesirable) by hicomplex teachers, and as intruding principals' behaviors by locomplex teachers. On the other hand, collegial relations contribute to morale and SDM in hicomplex schools, and are even seen as part of principals' supportive behavior (r = .42). Such relations do not contribute to the morale of locomplex teachers, and contribute negatively to students' achievements. Specifically, when team teaching takes place in locomplex schools, it is negatively related to achievement.[7]

Additional Analyses: Support, Influence, and Compliance

As we have seen already, the contributions of policies, AHC's and the like, depend on the meanings attributed to them. Thus, e.g. we saw that

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[7]We deliberately avoid the use of terms as "affects" or "influences" as there is nothing in the data to rule out the possibility that poor achievements lead to experiments with team teaching.

AHC's in locomplex schools seem to be perceived as akin to principals' intrusions, and that specific policies are seen as negating support. We can now turn to examine the role played by attributed support, the roles and meanings of compliance with principals' requests, and the nature of principals' influence. As before, we have both teachers' and principals' accounts of influence and compliance (but not of support) and can therefore examine the "reality" that each of them reveals.

Table 7 shows the correlations among these variables for each of our samples. The first thing to note is that principals' and teachers' accounts of principals' influence in the schools are better correlated in hicomplex than in locomplex schools. Does this then mean that there is more consensus about sources of influence in hicomplex schools? The answer appears to be a qualified yes. We have noted earlier a similar pattern with respect to principals' supervisory behavior. Principals' and teachers' accounts of such behaviors, particularly principals' evaluation of the teaching of reading were better correlated in hicomplex schools. But, as it will be recalled, we found the exact opposite pattern with respect to policies: principals' and teachers' accounts of these were somewhat better correlated in locomplex schools.

Could it then be that curricular planning is more central an issue in hicomplex schools, and that as long as it does not translate into impersonal policies there is more consensus about it in hicomplex schools? Indeed, although principals' and teachers' accounts of compliance are generally poorly correlated in both samples, principals' accounts of compliance with their curricular requests are positively related to all teachers' accounts of compliance, but only in the hicomplex schools ($r = .18$ to $.40$, median $r = .37$).

TABLE 7

Correlations Among Principal Accounts of Principal Influence; Teacher Accounts of Principal Influence; Teacher Accounts of Principal Support; Principal Accounts of Teacher Comliance; Teacher Accounts of Teacher Comjoiance in High and Low Complexity Schools

		PRINCIPAL ACCOUNTS OF PRINCIPAL INFLUENCE					TCHR ACCTS OF PRINC INFLNCE		TCHR ACCTS OF PRINC SUPPORT			PRINCIPAL ACCOUNTS OF TEACHER COMPLIANCE				TEACHER ACCOUNTS OF TEACHER COMPLIANCE				
		PV246	PV243	PV242	PV351	PV244	HV50	HV51	HV28	HV43	HV73	PV337	PV338	PV339	PV340	HV54	HV55	HV56	HV57	HV58
Princ.Accts of Princ. Influence	PV246:Prin.influence:pupil achvmt		.25	.38*	.41*	.10	.35*	.30	-.16	-.18	-.06	.36*	.08	.13	.46*	-.03	.19	-.00	-.03	.00
	PV245:Princ.influence re:curriculum	.54**		.25	.24	.24	.34*	.07	-.01	-.26	0.08	.37*	.06	.41*	.27	.16	.20	.10	.09	.15
	PV242:Princ.influence re:educ goals	.27	.72**		.33	.06	.48**	.51**	-.13	.20	-.27	.13	-.10	.23	.59**	.19	.38*	.28	.18	.23
	PV351:Princ.influence re:tchr eval crit	.01	.41*	.46*		-.31	.53**	.54**	.15	0.08	.17	.37*	.05	.12	.21	.33	.43*	.20	.31	.29
	PV244:Princ. influence re:tchg methods	.50**	.52**	.16	.36**		-.21	-.38*	-.55**	0.51**	.55**	.01	.18	.10	.42*	.20	-.31	-.25	-.27	-.23
Tchr. Accts.of Princ. Influnce	HV50:Princ.influence re:tchg methods	-.06	.16	.19	.13	.27		.70**	.29	.39*	.18	.34**	.29	.31	.16	.44*	.53**	.25	.42*	.36*
	HV51:Princ. influence re: dealing w/stdnts	-.08	.08	.08	.14	.34*	.74**		.32	.53**	.43*	.14	-.02	.07	.11	.33	.58**	.41*	.34*	.43*
Tchr. Accts.of Princ. Support	HV28:Actual Princ.role:work w/tchrs	.21	.41*	.33	.53**	.46*	.55**	.37*		.44*	.80**	.32	.21	-.16	-.08	.46*	.42*	.35*	.54**	.51**
	HV43:Freq.Princ. provides resources	.20	.22	.31	.42*	.40*	.58**	.37*	.77**		.44*	.08	.09	.01	-.24	.29	.41*	.40*	.32	.38*
	HV73:Freq. helpful advice from Princ.	-.08	.11	.18	.38*	.29	.49**	.33	.80**	.77**		.19	.09	-.20	-.17	.39*	.39*	.42*	.41*	.43*
Princ.Accts of Tchr. Compliance	PV337:Tchr.complaince re:curricln content	.03	.24	.25	.15	-.03	.11	-.12	-.13	-.14	-.21		.53**	.41*	.27	.40*	.37*	.18	.42*	.31
	PV338:Tchr.compliance re:tchg methods	.03	.04	.12	.29	.29	.27	.18	.10	.23	-.02	.47*		.09	.32	.19	.28	-.09	.13	.07
	PV339:Tchr.compliance re:pupil grouping	-.08	.09	.28	.14	.01	.00	.07	-.29	-.11	-.18	.53**	.45*		-.09	.20	.22	.19	.24	.14
	PV340:Tchr.compliance re:stdnt prog repts	-.03	.12	.46*	.12	-.19	-.01	-.15	-.09	-.10	.01	.48**	.19	.46*		.30	.35*	.26	.25	.30
Tchr.Accts of Tchr. Compliance	HV54:Follow Princ.request:curricln content	-.34*	-.34*	-.12	.03	-.07	.02	.00	-.20	.00	-.07	-.03	.10	.26	.15		.81**	.77**	.93**	.92**
	HV55:Follow Princ.request:tchg methods	-.35*	-.30	-.18	-.08	.05	.12	.26	-.08	.08	.17	-.14	-.08	.28	.00	.81**		.90**	.88**	.85**
	HV56:Follow Princ.request:sprvise stdnts	-.33	-.23	-.07	-.08	.10	.26	.39*	-.12	.09	.10	-.07	.14	.34*	.07	.80**	.89**		.85**	.83**
	HV57:Follow Princ.request:grouping practices	-.39*	-.38*	-.19	-.17	-.12	-.05	-.16	-.34*	-.14	-.07	.08	-.02	.30	.07	.85**	.87**	.82**		.92**
	HV58:Follow Princ.request:rprt stdnt prog	-.31	-.07	.12	.03	.11	.14	-.15	-.16	-.04	.10	.09	.00	.39*	.33	.71**	.80**	.80**	.33**	

Note: Upper triangle: High complexity schools; Lower triangle: Low complexity schools
*p < .05, **p < .01
Significance levels change as function of n (maximum n = 23).

We can then suggest the possible conclusion that there is more agreement between principals and teachers in hicomplex schools in an area of influence that is deemed central to the functioning of complex schools. Additional support for this conclusion can be found in the positive correlation (.54, $p<.01$) in hicomplex schools between principals' own account of compliance with their curricular requests and teachers' attributions of teaching-related influence to principals.

The second interesting thing to note is that principals' own accounts of their influences, in particular, their influences on student achievements (PV246) and on cirricular matters (PV245), are negatively related to teachers' accounts of compliance in locomplex schools (only two significant but positive correlations in hicomplex schools). This lends some support to our hypothesis that locomplex schools benefit more from impersonal policies and less from principals' personal involvement. Indeed, the above mentioned principals' self accounts of influences correlate positively (.35 to .46, $p<.05$) with their use of AHC's which, as we have seen, tend to correlate negatively with attributed support.[8]

The third thing to notice is that principals' claim for influence on teaching methods (PV244) correlates negatively, in hicomplex schools, with teachers' attributions of influence (-.21 and -.38) and with attributed support (-.51 to -.55). In locomplex schools the correlations tend to be positive. It seems as if such influence is perceived by hicomplex teachers as an intrusion into their sphere of autonomy. (As indeed we have noticed already in connection to the relationship between curricular policies and the morale of hicomplex teachers).

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[8] If principals' influence in locomplex schools on achievements and curriculum are to be considered as intrusions, one would expect them to be directly and negatively related to attributed support. They do not.

Aside from some other unsystematic differences, there are two additional major differences between the two sets of schools. First, while teachers' attributions of influence to principals correlate positively and systematically with teachers' accounts of compliance in hicomplex schools, there are hardly any such correlations in locomplex schools (median r's = .42 and .05 respectively). Second, while attributed support correlates positively and systematically with teachers' accounts of compliance in hicomplex schools, the correlations in locomplex schools are either nonexistent or negative (median r's = .40 and -.05 respectively). These differences are quite revealing since attributed support and attributed influence are similarly correlated in both samples and since there are generally no mean differences in compliance between the samples. (There is one significant difference in favor of the locomplex sample on teachers' account of compliance with requests re student progress reports).

What is revealed here is the importance of principals' influence, as seen by teachers, and the support principals provide, to the way in which hicomplex teachers see themselves complying with their principals. Teachers' compliance with principals in locomplex schools is unrelated to such personal contacts. On the other hand, teachers' accounts of compliance in the locomplex schools correlates with their perception of explicit school policies concerning curricular and instructional matters and concerning student progress reports (in hicomplex schools only perceived policy re student evaluation criteria is moderately correlated with compliance).

The pattern of differences is schematically illustrated in figure 4.

hicomplex schools

locomplex schools

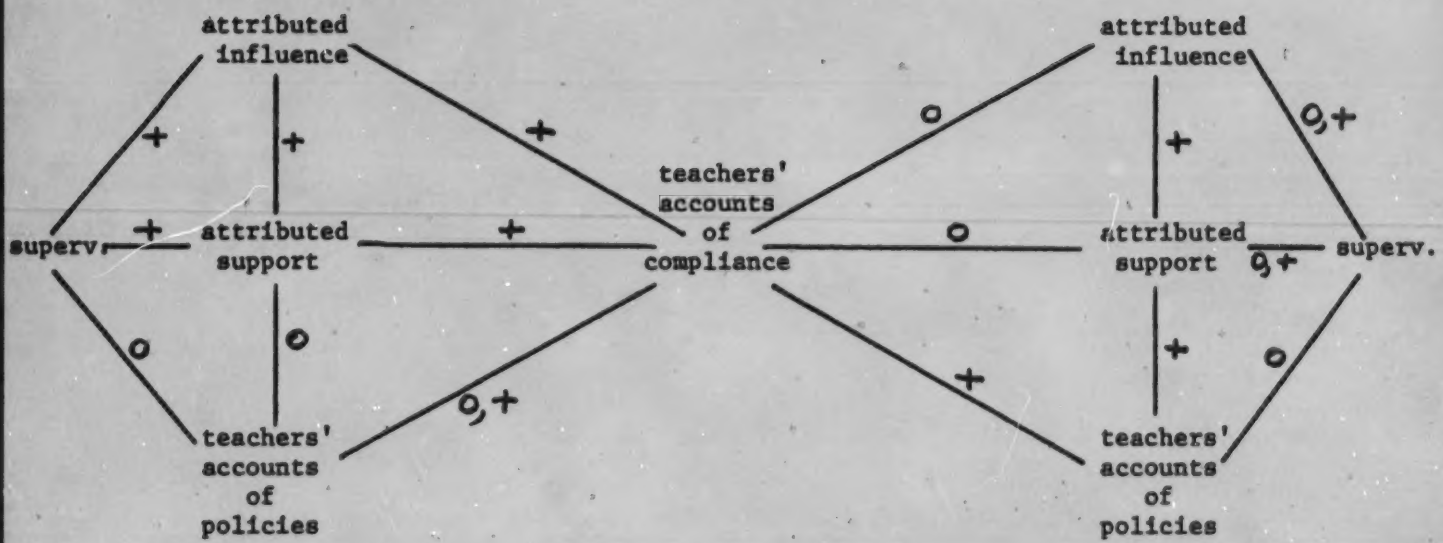


Figure 4: Relations of compliance with influence, support, supervision and policies

Thus, a rather clear (and by now also expected) interaction emerges: teachers' compliance with principals' requests in hicomplex schools is strongly related to the perception of principals' support and influence (and both of these clusters of variables are more strongly related to principals' supervisory behaviors in hicomplex schools than in locomplex ones); in locomplex schools, teachers' compliance is more contingent upon impersonal governance methods--school-wide policies.

These differences between school settings are retained when influence, support and compliance are correlated with morale, SDM and achievement (table 8). Not only does teachers' morale (with the exception of their satisfaction with other teachers) in hicomplex schools relate more strongly to their accounts of compliance, but their morale is also more strongly related to the support they claim to receive from their principals. A similar pattern can be found

TABLE 8a

Correlations Among Principal Accounts of Principal Influence; Teacher Accounts of Principal Influence; Teacher Accounts of Principal Support; Principal Accounts of Teacher Compliance; Teacher Accounts of Teacher Compliance and Morale, Satisfaction with Decision Making and Achievement in High Complexity Schools

		MORALE					SATISFACTION WITH DECISION MAKING					ACHIEVEMENT		
		HV84 Satis. w/sch.	HV85 Satis. w/prin	HV86 Satis w/tch wrk rel	HV87 Satis. w/occup	HVA68 effec. of tchr.	HVA18 prgrms designd	HVA19 alter-natives clear	HVA20 all views heard	HVA21 imple-menta-tion	HVA22 eval. of effec.	READ1 1st grade rdg	READ2 2nd grade rdg	READ3 3rd grade rdg
Princ.Accts of Princ. Influence	PV246 Princ.influence re:pupil achvmt	-.08	-.08	.17	.12	.32	-.29	-.27	-.17	-.15	.06	-.10	-.28	-.28
	PV245 Princ.influence re:curriculum	.23	.06	.06	.24	.22	.05	.04	.17	.26	.15	.00	-.10	-.08
	PV242 Princ.influence re:educ goals	.31	.17	.44*	.30	.37	.31	.37	.13	.25	.26	-.35*	-.27	-.28
	PV351 Princ.influence re:tchr eval crit	-.04	.12	.05	.19	.18	.16	.15	.45*	.17	.50**	-.26	-.24	-.27
	PV244 Princ.influence re:tchg methods	.06	-.18	.27	-.07	.06	-.27	-.20	-.27	-.05	-.39	.16	.09	.07
Tchr. Accts.of Princ. Influnce	HV50 Princ.influence re:tchg methods	.12	.27	.10	.35*	.36	-.07	-.11	.07	.34	.49*	-.17	-.17	-.22
	HV51 Princ.influence re:dealing w/stdnts	.38*	.54**	.33	.40*	.41*	.38	.40*	.43*	.34	.65**	-.07	.03	-.03
Tchr. Accts.of Princ. Support	HV28 Actual Princ.role:work w/tchrs	.39*	.55**	.16	.47*	-.06	.35	.18	.37	.35	.51**	.21	.38*	.42*
	HV43 Freq Princ.provides resources	.42*	.56**	.13	.41*	.26	.40*	.37	.22	.36	.48**	.10	.27	.23
	HV73 Freq. helpful advice fr/Princ.	.44*	.62**	.16	.41*	.09	.46*	.34	.54**	.38*	.51**	.38*	.48**	.52**
Princ.Accts of Tchr. Compliance	PV337 Tchr compliance re:curric content	.15	.14	.28	.36*	.22	-.11	-.18	.06	.25	.29	.29	.12	.15
	PV338 Tchr compliance re:tchng methods	.07	.08	.24	.25	.15	-.15	-.24	-.06	.32	.14	.19	.28	.13
	PV339 Tchr compliance re:pupil grouping	.04	.06	-.00	.10	.06	-.15	012	-.07	.21	.11	.14	-.15	-.25
	PV340 Tchr compliance re:stdnt prog repts	.33	.10	.52**	.40*	.33	.02	.07	.04	.08	.09	-.17	-.11	-.13
Tchr.Accts of Tchr. Compliance	HV54 Follow Princ. request: curric content	.43*	.55**	.01	.58**	.48*	-.05	-.09	.03	.15	.37	.07	.03	-.04
	HV55 Follow Princ. request: tchng method	.49**	.56**	.19	.68**	.55**	.22	.22	.34	.29	.71**	.47	-.15	-.18
	HV56 Follow Princ. request: sprvise stdnts	.58**	.62**	.15	.63**	.60**	.34	.34	.37	.25	.56**	-.07	.00	.00
	HV57 Follow Princ. request: grpng practices	.45*	.56**	.08	.63**	.52**	.06	.03	.19	.17	.49**	.00	.00	-.03
	HV58 Follow Princ. request: rprt stdnt prog	.60**	.69**	.13	.72**	.65**	.10	.09	.17	.07	.39*	.08	.15	.08

Note: * $p < .05$, ** $p < .01$
Significance levels change as function of n (maximum n=23)

Table 8b

Correlations Among Principal Accounts of Principal Influence, Teacher Accounts of Principal Influence, Teacher Accounts of Principal Support, Principal Accounts of Teacher Compliance, Teacher Accounts of Teacher Compliance and Morale, Satisfaction with Decision Making and Achievement in Low Complexity Schools

		MORALE					SATISFACTION WITH DECISION MAKING					ACHIEVEMENT		
		MV84 satis w/sch	MV85 satis w/prnc	MV86 satis w/tchr wrk rel	MV87 satis w/occ	MVA68 effec as tchr	MVA18 prob defnd	MVA19 altrn clear	MVA20 all views hrd	MVA21 imple-menta-tion	MVA22 eval of effec	READ1 1st grd rdng 1975	READ2 2nd grd rdng 1975	READ3 3rd grd rdng 1975
PRINC ACCTS OF PRINC INFLNC	PV246:Princ.inflnc re:pupil achieve	.09	.00	.21	.00	.33	-.11	-.00	.00	.14	.18	.06	.28	.30
	PV245:Princ.inflnc re:curric	.15	.04	.10	-.01	.16	.02	.24	.12	.13	.31	.03	.28	.36*
	PV242:Princ.inflnc re:tchr goals	.36*	.29	.08	.00	.11	.19	.35	.26	.29	.35	.24	.45*	.46*
	PV351:Princ.inflnc re:tchr eval crit	.24	.00	.13	-.09	-.07	.08	.19	.04	.08	.15	-.12	.26	.28
	PV244:Princ. inflnc re:tchng meth	.25	.16	.48**	.03	-.22	.26	.37	.28	.26	.38	-.40*	-.20	-.08
TCHR ACCTS PRINC INFL	MV50:Princ.inflnc re:tchng meth	.17	.37*	.04	-.24	-.37	.31	.37	.35	.42	.41	-.12	-.19	-.14
	MV51:Princ.inflnc re:deal w/stdnts	.07	.28	.13	-.26	-.67**	.27	.22	.22	.38	.25	-.27	-.24	-.12
PRINC ACCTS TCHR COMPL	MV28:actl Princ.role:work w/tchr	.34	.28	.16	-.34*	.13	.64**	.73**	.62**	.56*	.64**	.04	.17	.36
	MV43:freq Princ.prov resources	.39*	.48**	.37*	-.32	.07	.48*	.62**	.53*	.48	.62**	.22	.18	.28
	MV73:freq helpful adv fr Princ.	.40*	.38*	.28	-.26	-.09	.75**	.77**	.71**	.67**	.70**	.28	.28	.38*
PRINC ACCTS OF TCHR COMPLIANCE	PV337:tchr compl re:curric contnt	.20	.03	-.06	.16	.10	-.39	-.32	-.33	-.09	-.18	.26	.18	.00
	PV338:tchr compl re:tchng meth	.37*	.33	.14	.00	.32	.13	.19	.19	.13	.06	-.04	-.10	-.14
	PV339:tchr compl re:pupil grpng	.21	.36*	.08	.10	.27	.15	.18	.20	.23	.14	-.17	-.07	-.16
	PV340:tchr compl re:stdnt prog rpts	.61**	.42*	.23	.51**	.56**	.16	.19	.14	.39	.31	.37*	.50**	.23
TCHR ACCTS OF TCHR COMPLIANCE	MV54:follow Princ.reqsts:curric contnt	.32	.47*	.31	.40*	.38	.27	.27	.18	.48*	.36*	-.14	-.22	-.35
	MV55:follow Princ.reqsts:tchng meth	.27	.48**	.45*	.24	-.06	.49*	.41	.36	.63**	.59*	-.20	-.40*	-.45*
	MV56:follow Princ.reqsts:suprvs stdnt	.30	.51**	.41*	.33	.50**	.45	.40	.38	.68**	.59*	-.19	-.40*	-.49**
	MV57:follow Princ.reqsts:grpng pract	.17	.33	.29	.44*	.37*	.21	.12	.12	.51*	.48*	-.09	-.37*	-.50**
	MV58:follow Princ.reqsts:reprt stdnt prog	.37*	.47*	.45*	.58**	.39**	.32	.35	.24	.49*	.55*	.09	-.09	-.27

Note: *p .05, **p .01
Significance levels change as function of n (maximum n = 23).

in these schools with respect to the relationships between morale and the influence attributed to principals on students' conduct.

While the self-efficacy of teachers (MVA68)in hicomplex schools correlates .41 ($p<.05$) with such an attribution of influence to principals, self-efficacy of teachers in locomplex schools correlates -.67 ($p<.01$) with the same attribution. And while the morale of the latter is far less well correlated with principals' support, influence and teachers' accounts of compliance, it is their SDM that tends to correlate better with support and and compliance. This is consistent with what we have argued earlier, namely that decision making processes--the somewhat more formal way of running a school--are of greater importance in locomplex schools. Support and influence bear upon these rather than upon morale.

The most revealing findings are, however, the negative correlations between teachers' accounts of compliance with principals' requests in locomplex schools, and students' achievements. Such negative correlations, which are particularly strong with second and third grade achievements (up to -.50), are not found in hicomplex schools. In the latter, achievements are unrelated to teachers' and principals' accounts of compliance, or to the influence attributed to principals. Achievements are, however, related in hicomplex schools to attributed support.

These patterns are graphically displayed in figure 5.

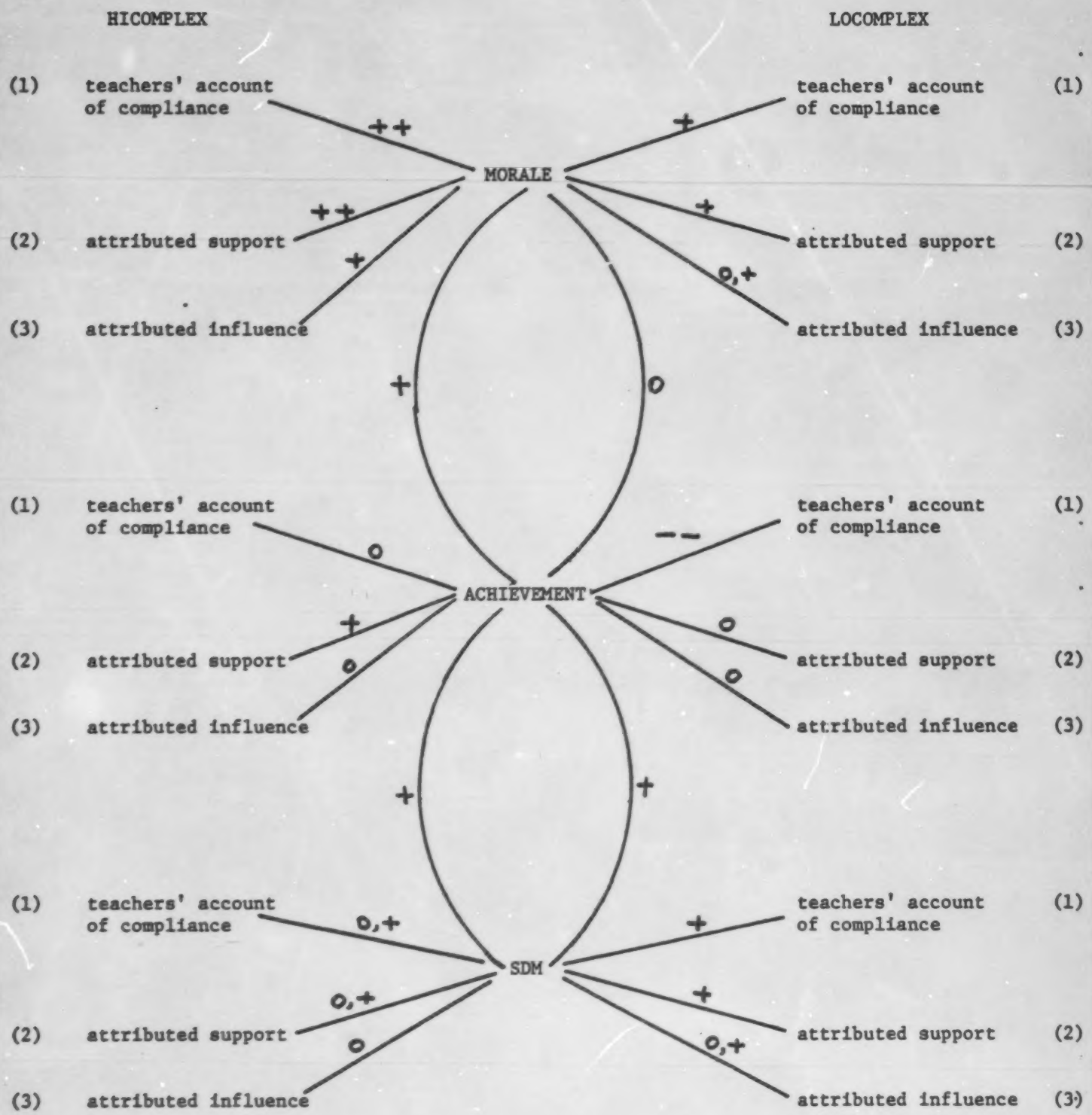


Figure 5: Relations of morale, SDM and achievement to compliance, support and influence

There are a few additional differences of finer grain that are worth noticing. Very much in line with what we have already observed in relation to the differential role played by student-conduct policies, principals' influence on the ways teachers deal with students, as attributed to them by teachers, correlates positively with morale in hicomplex schools (.33 to .41). But it tends to be negatively correlated with some of the morale variables (up to -.67) in the locomplex schools. This difference strengthens our proposition that any policy or influence in this domain has negative consequences in locomplex but positive ones in hicomplex schools.

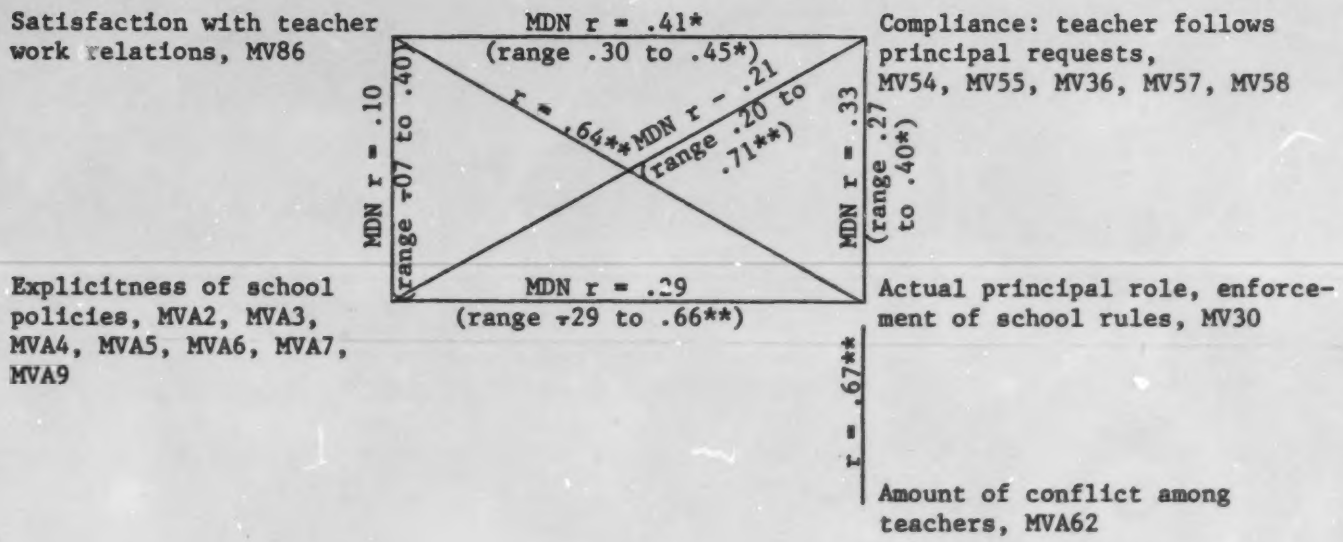
Another observation is the differential contribution of the three support variables. Quite clearly, principals' support in the form of providing resources (MV43) is less associated with teacher morale, SDM and student achievement in hicomplex schools than the other support variables (working with teachers and giving them helpful advice). In locomplex schools the support variables are similarly (though weakly) related to achievement. However, while "providing resources" correlates highly (.77) with the other support variables in locomplex schools, the correlation is lower (.44) in hicomplex schools (z of difference = .173, $10>p>.05$). "Providing resources," while not unimportant to the morale and SDM, is--in hicomplex schools--a lesser support component than principals' personal work with teachers' and a far lesser support than principals' "helpful advice."

Finally, it is interesting to note that teachers' satisfaction with other teachers' (MV86), one of the morale measures, is not correlated in hicomplex schools either with the attribution of principal influence, or support or with teachers' accounts of their compliance. The parallel correlations with this morale variable are higher in locomplex schools. This difference is puzzling since "satisfaction with other teachers" correlates significantly

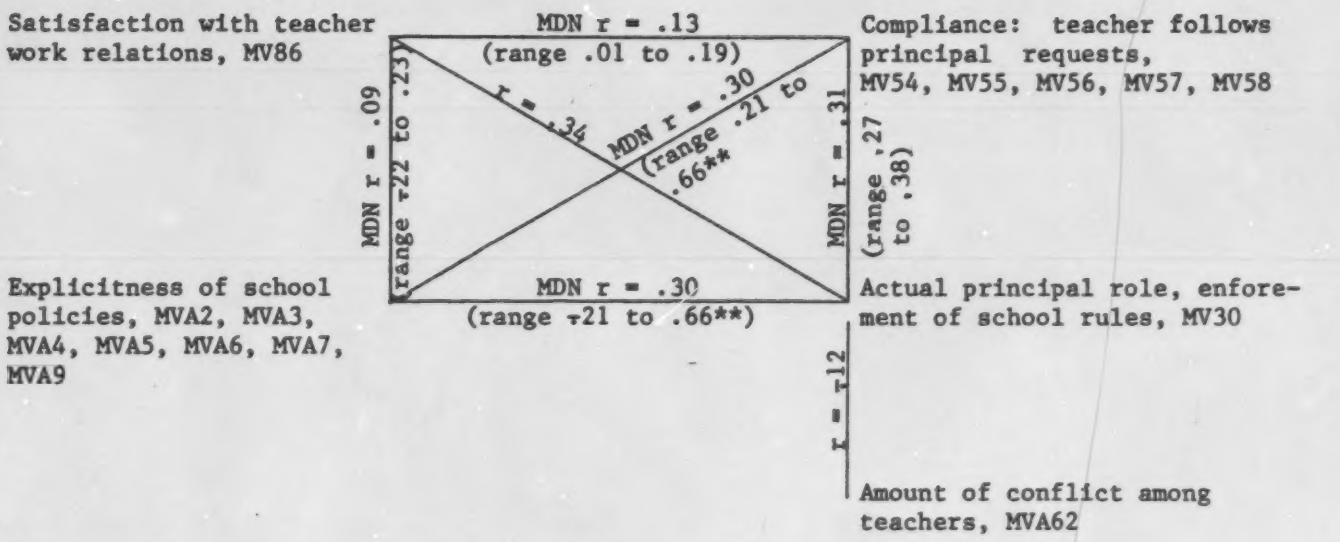
with supervision variables (e.g., principals hold discussions with teachers) and with student achievement in hicomplex, but not in locomplex schools. Why, then, is it unrelated in hicomplex schools to compliance, support or influence attributed to principals?

It seems that "satisfaction with other teachers" is an important ingredient in locomplex teachers' compliance with their principals' requests. Their compliance relates to principals' rule enforcement (.27 to .40, median $r = .33$), and to the perceived existence of policies (up to .71). In these schools, both rule enforcement and policies correlate positively with "satisfaction with other teachers" (.64 and up to .40 respectively). At the same time, principals' rule enforcing behavior correlates -.67 ($p<.01$) with the amount of conflict among the teachers. Thus, we appear to have a square-like pattern that relates policies, rule enforcement, compliance, and satisfaction with colleagues (see figure 6a; figure 6b, pertaining to hicomplex schools, is presented for comparison). Governance in locomplex schools, while more effective when impersonally conducted, appears to be contingent on collegial satisfaction, perhaps because it provides a sense of common standards among teachers who are essentially isolated from one another. Satisfaction with other teachers thus seems to serve as a support mechanism. Indeed, the attribution of support to principals correlates negatively with amount of conflict among teachers (-.46 to -.56, median $r = -.49$, $p<.05$).

Not so in hicomplex schools. Not only is compliance with principals' requests unrelated to collegial satisfaction, but principals' rule enforcement, and the existence of policies are unrelated to it. Furthermore,


Satisfaction with teacher work relations, MV86
MDN r = .41*
(range .30 to .45*)
Compliance: teacher follows principal requests, MV54, MV55, MV36, MV57, MV58
MDN r = .10
(range -.07 to .40)
r = .64** MDN r = -.21
(range .20 to .71**)
MDN r = .33
(range .27 to .40*)
Explicitness of school policies, MVA2, MVA3, MVA4, MVA5, MVA6, MVA7, MVA9
MDN r = .29
(range -.29 to .66**)
Actual principal role, enforcement of school rules, MV30
r = .67**
Amount of conflict among teachers, MVA62

(a) LOW COMPLEXITY SCHOOLS


Satisfaction with teacher work relations, MV86
MDN r = .13
(range .01 to .19)
Compliance: teacher follows principal requests, MV54, MV55, MV56, MV57, MV58
MDN r = .09
(range -.22 to .23)
r = .34 MDN r = .30
(range .21 to .66**
MDN r = .31
(range .27 to .38)
Explicitness of school policies, MVA2, MVA3, MVA4, MVA5, MVA6, MVA7, MVA9
MDN r = .30
(range -.21 to .66**)
Actual principal role, enforcement of school rules, MV30
r = -.12
Amount of conflict among teachers, MVA62

(b) HIGH COMPLEXITY SCHOOLS

Figure 6: Relations Among Compliance, Policies, Rule Enforcement and Satisfaction With

NOTE: *p .05
**p .01
Significance levels change as function of n (maximum n = 23).

conflicts among teachers (there are no fewer of those in hicomplex schools) are less negatively related to the use of AHC, to supervision, or to principals' support (correlations of teacher conflicts with the latter range from -.47 to -.24, median r = -.30, N.S.). Thus, compliance with principals' requests, attributions of principal influence and support, as well as other governance behaviors such as the use of AHC's are partly independent of the relations among teachers. In other words compliance with principals in hicomplex schools is apparently more contingent upon the relationships with the principals (e.g., their support) and less on collegial relations. The latter appear to constitute a somewhat separate domain of school life.

Summary And Discussion

Our secondary data analysis followed, to an extent, the analyses of the original researchers. Neither the meanings attributed to questionnaire items, nor the ways of subsuming them under construct labels (e.g., "impersonal control") were changed by us. We also retained throughout the distinction between more and less complex schools, since correlation matrices for the two subsamples were sufficiently different to warrant separate analyses. Our analyses and interpretations, thus far, have been quite basic and close to the data themselves. We have let the data suggest hypotehses, which we then pursued within the constraints set by the data.

We diverted somewhat from the earlier analyses. First, we analyzed clusters of variables, or items, rather than their composites. Second, we introduced achievement data, obtained independently of the original EFT research. Third, as data were collected of both principals and teachers in the same schools, we used both sources of information to obtain a wider perspective on the functioning of schools and on the comparability of their reports.

Our analyses began with a reexamination of several previously formulated conclusions. These pertained to the contribution of control, coordination and support to teachers' morale. However, we gradually moved away from such reexamination as the additional data we analyzed began to suggest new patterns and hypotheses.

Overall, our findings thus far tend to agree with Cohen et al.'s (1977) first study; namely that in more complex schools less formal, more collegial relations with administrators seem to be more functional while simpler, more traditional schools appear to benefit more from impersonal, formalized patterns of governance. This overall and tentative conclusion is in partial disagreement with Cohen et al.'s (1977) second study, and Cohen & Miller's

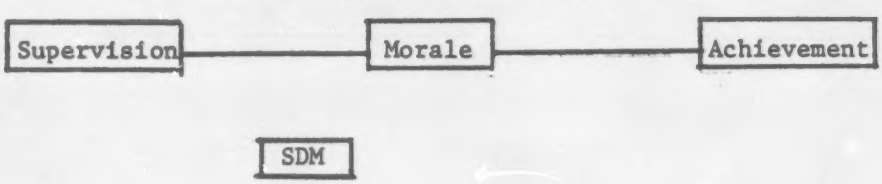
(1979) study. These studies concluded that, aside from informal supports, more formal practices such as supervision and coordination through school policies contribute more to the morale of teachers in complex schools than in less complex schools. Our analyses suggest a specification of the alternative, preferred governance systems which runs counter to this structural interpretaion of the data.

The observations which lead us to our tentative conclusien, are described briefly as follows:

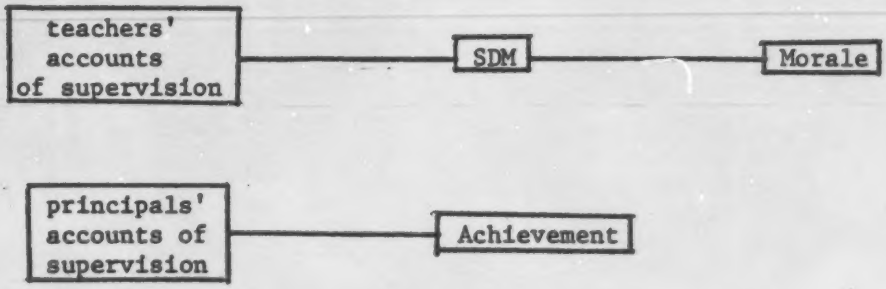
1. While, indeed, both teachers' and principals' accounts of "supervisory" behaviors correlate with teachers' morale in complex (hicomplex) schools, teachers' accounts of supervision correlate better with decision-making satisfaction (SDM) in less complex (locomplex) schools.

2. The supervision item that best correlates with morale and achievement in hicomplex schools is the frequency principals discuss issues with teachers (a variable that correlates quite highly with collegial relations as well); another supervisory variable that plays a similar though weaker role in hicomplex schools is classroom evaluation. In locomplex schools, the supervisory variable that best correlates with teachers' morale and SDM is how much principals enforce rules.

3. It appears that in hicomplex schools, both teachers' and principals' accounts of supervision (the two kinds of accounts are better interrelated in these schools) relate to teachers' morale, which in turn is associated with student achievement. Among these variables, morale occupies a "mediating" position, while SDM is dissociated from the chain.



In locomplex schools, principals' accounts of supervision are unrelated to the criterion variables, as are students' achievements. On the other hand, teachers' accounts of "supervision" (particularly principals' rule enforcement and informedness) relate to SDM which relates to morale. Thus:



It becomes evident that:

(a) Principals' and teachers' accounts of supervision are quite different, particularly in locomplex schools (more "loose coupling" in these schools?);

(b) Relatively impersonal supervisory behaviors (rule enforcement) are of greater importance in locomplex schools, and more collegial ones (discussion, but not "advice") play a greater role in hicomplex schools.

4. Further support of these patterns was found in the analysis pertaining to the use of school policies. First, the different policies in locomplex schools are more strongly interrelated; that is, if a locomplex school has one kind of policy it is more likely to have other policies as well. Not so in hicomplex schools, which are less overall policy-governed. Second, teacher reports of explicit school policies are far better correlated with morale and SDM in locomplex than in hicomplex schools, contrary to previous findings. Third, there is a large difference between principals' and teachers' accounts of policies in locomplex schools. Principals' accounts of policies re student conduct correlate negatively with the morale and

SDM for teachers in locomplex schools, but teachers' own accounts of such policies correlate positively with morale and SDM. We hypothesized that:

(a) while locomplex schools benefit more from the existence of impersonal policies than hicomplex schools,

(b) some patterns of governance which are dubbed by principals as "policies," are perceived by teachers as unwarranted instrusions, and--

(c) only what teachers perceive to be "policies" contributes positively to their morale and SDM. Thus,

(d) unlike originally expected, hicomplex schools with all their uncertainty, complexity and fluidity, either do not benefit from stable policies, or even suffer from them: achievement in hicomplex schools correlates more negatively with the existence of policies;

(e) generally, the existence of policies is negatively related to personal supervision in hicomplex schools, and positively related to it in locomplex schools, a finding that further supports our hypothesis that hicomplex schools benefit more from principals' personal, exchange-like involvement.

5. Collegial relations are more strongly related to morale in hicomplex schools while they are negatively related to achievement in locomplex schools.

6. The use of Ad Hoc committees (AHC's) is negatively related to achievement in both kinds of schools. However, more detailed analyses suggest that the negative association of AHC's may stem from their being perceived as impersonal governance methods in hicomplex schools and as intrusions in locomplex ones.

7. There is more agreement between principals and teachers on the influence exerted by the former in hicomplex schools (less "loose coupling"?), particularly with respect to influence on instructional matters. Perceived

principals' influence on student achievement and curricular matters are negatively related to teachers' compliance in locomplex schools (as such influences correlate with the "unfavorable" policies related to student conduct they also may be perceived as intrusions),. In hicomplex schools, similarly, principals' influence on teaching methods correlate negatively with perceived support and thus appear to be taken as intrusions or inappropriate use of general standards across classrooms.

8. Generally, influence attributed to principals goes hand in hand with their reported supervisory behavior, with the support they provide, with teachers' willingness to comply, with morale, and SDM in hicomplex schools. Also, achievements in these schools relate to principals' support of teachers. In locomplex schools, however, teachers' compliance relates only to the perceived existence of policies; morale relates much less positively to compliance, to principals' influence or to support, while it is their SDM that relates to those. Most importantly, student achievement in locomplex schools is related negatively to teachers' compliance with principals' (personal) requests and to an extent also with principals' influence.

9. While collegial relations in locomplex schools is a correlate of impersonal governance and of compliance with principals, such relations are independent in hicomplex schools. Principals' influence, support, etc. as well as teachers' compliance are less associated with collegial relations.

These findings, breifly summarized above, suggest a rather interesting picture of more and of less complex schools. It is the latter kind of school that resembles a more traditional organization in which policies, satisfaction with decision-making and rule enforcement are preferred governance strategies. In such a school there is also less general agreement between

the parties involved about the meanings that certain organizational activities have. The hicomplex schools appear as more complex webs of informal exchanges involving support, discussion, personal involvement and influence of principals on the one hand, and teachers' compliance, morale and even student achievements, on the other.

Yet, while formal governance plays a more important and positive role in less complex schools, it is clearly delineated from unwarranted interventions from "above." Policies--yes, but interference with what takes place between teacher and students behind closed doors--no. Indeed, it is interesting to note that teachers' self-efficacy among locomplex schools is closely related to student achievement. Among hicomplex schools, teachers' self-efficacy is better related to the perceived activities of principals.

It seems evident that as schools become more complex they benefit from deviations from traditional organizational structures. Does this then mean that they are more "loosely coupled" and that they benefit from being so coupled (Meyer & Rowan, 1977)? More likely, as governance patterns can differ so can the manifestations of "coupling." Schools can be tightly or loosely coupled in more than one way. None of these ways is better or worse on the average. Rather, our analyses suggest interaction patterns: less complex schools benefitting more from formal governance and little interdependence among teachers and between teachers and principals, while more complex schools benefit from a more informal and flexible administrative role. As the present analyses suggest, we may speak of sturcture-governance-interactions (SGI). We will come back to discuss this issue in greater detail in the second chapter of this report.

Our analyses also make clear what roles different perceptions and attributions play in governing school life. The "fact" that a school has a policy re discipline does not mean that what is claimed by the principal to be a policy is so perceived by teachers. They may desire policies in general, but this particular one may manifest more as a principals' intervention than as a genuine policy. And it is their perception, whether accurate or inaccurate, which is probably of importance. We will discuss also this issue further in the second chapter of the report, as more analyses pertaining directly to the discrepancies between teachers' and principals' reports will be presented.

The analyses reported thus far do not shed much light on the construct validity of the variables used, nor on how they should be clustered. As indicated in the introduction, we were mainly data- not theory-oriented. Thus, we tentatively accepted our predecessors' constructs. In some places there was no reason to question the constructs and clusters, neither in advance nor now, as their face validity is quite clear: Indeed, when teachers are asked "to what extent are there explicit school-wide policies in each of the following areas?", one can safely assume their responses to be valid, though subjective, accounts of perceived school policies. But are such perceptions of policies measures of impersonal coordination? And why not impersonal control? Similarly, why is principals' discussion with teachers considered "supervision" while their provision of resources--"support"? And, why is satisfaction with implementation of decisions considered "decision-making satisfaction" while rule enforcement is regarded as "supervision"?

We doubt whether the available data base, large as it is, can serve the purpose of empirical construct validation. More importantly, we question the desirability of constructing a priori theoretical hypotheses using

highly abstract (and hence often fuzzy) constructs. Our analyses show quite clearly that small clusters of variables, even single items, show differential and unique patterns of relationships with other variables. Ignoring them in favor of ill-defined theoretical constructs means a loss of valuable information, at best, and arriving at misleading conclusions, at worst.

For example, calling a variety of principals' behaviors "supervision" and so labeling questionnaire items, imposes on respondents a clustering they may disagree with. Do principals indeed see their discussions with teachers as part of their "supervisory behavior"? Moreover, there is no reason to combine measures of principals advice-giving behavior and the discussions they hold with teachers if the former relates negatively to teachers' satisfaction with principals' while the latter relates positively. When collapsed they do not relate to satisfaction at all!

It is true, of course, that theoretical constructs and variable-composites are much more easily handled than endless correlation tables. But without detailed description of multi-variate relations, a priori composites and construct-meanings can be prematurely imposed on the data. Further, our analyses challenge current usage of the "loose coupling" construct; our complex schools are better "coupled" than non-complex ones in some respects and more "loosely coupled" in others. It is far from clear which aspect of "coupling" should be emphasized in discussion of school governance. Although complex schools do not employ more evaluation procedures than less complex ones, the impact of evaluation in the former is far greater and more positive. And while they benefit less than noncomplex schools from explicit policies, they seem to successfully employ alternative modes of governance such as personal contact and influence.

We feel that given the present state of the art one is better off trying to generalize from detailed data and construct post hoc hypotheses. This we will do in Chapter II of the report, as what this and the following section offer are but tentative hypotheses.

Given the present state of the art and our reliance on a single data set, we are in a position to offer only tentative theoretical hypothesis. First and foremost, we induced our hypotheses from the data, applying as innocent an exploratory approach as possible. Data that suggest hypotheses cannot serve at the same time to test them, thus our claims retain the status of hypotheses. Second, the sample sizes involved are small, 23 in each sample at the most; some questionnaires (e.g., SDM) were given to only half the teachers, reducing the n even further. Thus, even if we could support our hypotheses, they'd still need to be treated as tentative. Last, we have analyzed only part of the data base. Additional analyses involving more of the available data could make our hypotheses less tentative.

SECTION II

Consensus and Dissensus Between Teachers and Principals

INTRODUCTION

This section of the report is concerned with the discrepancies between principals' and teachers' perceptions of school organization. Cohen and her collaborators have reported many disagreements between occupants of different levels in the school organizational hierarchy. Indeed, a theory has been posited (Meyer, 1975) that schools are loosely-coupled organizations in which there is consensus only about more trivial features of the school environment while those features most crucial to the purposes of education are rarely agreed upon. Thus, we find "... a detailed, definitive specification of who is and who is not a teacher..." while there is "... no technology, or program of instruction, that is of established or consensual efficacity." (Meyer, 1975, pp. 5,1; respectively). Similar claims were made by Meyer et al. (1978). In short, schools were found to be coupled tightly on features of little importance and coupled loosely on issues that are central to their mission.

In our own findings reported this far, we have noted variability in the correlational patterns. We found that "coupling," as indicated by strong correlations, varies depending upon a hierarchy of conditions. While different relationships emerge in High versus Low Complexity schools, we have also noted that patterns depend upon:

- The source of the information (whether principal or teacher)
- Within source, the domain of items (whether "satisfaction with fellow teachers" or "satisfaction with policies")

- Within domains, the content of a particular item (whether "policy regarding instruction" or "policy regarding discipline")

Since discrepancy was so frequently a theme in reports about these data, we set out to examine it directly.

Method

We began by reviewing the questionnaires and interview protocols searching for identical questions asked of both teachers and principals in 1975. Our criteria for selection were:

- A question must be a direct and unambiguous request for information pertinent to the major constructs used (e.g., questions about morale, satisfaction with decision making, etc.)
- The wording and context for a pair of questions had to be substantively identical.
- The range of the response set (i.e., the coding scheme) had to be the same for the pair of questions.

Twenty-two pairs of questions were located. By domain, they included some concerning teachers' compliance with principals' requests, reports of the degree of explicitness for a number of policies, and assessments of the level of conflict in the school. Unfortunately, 12 of the 22 pairs included questions asked on only one of two teacher questionnaire forms used in 1975. Thus, in the discussions that follow, sample sizes vary. When we look within High or Low Complexity schools, the maximum number is 23 schools while the minimum falls to only 10 schools when Form A variables are employed.[1]

In our attempts to reanalyse these data in new ways, we often discover that our hypotheses demand information which was not collected. The reader

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[1]While we will provide cell sizes in our tables, the reader is advised that whenever the letter "A" appears in a variable name (e.g., MVA62), cell size is reduced.

is advised (as we so often reminded ourselves) to view our findings as suggestive of new avenues for research. Remember that our hypotheses are emerging from the data rather than being confirmed by them.

To measure disagreement (that is, dissensus), we computed discrepancy scores (DS) for these 22 parallel items. A discrepancy score was computed as the absolute value of the difference between the report of a principal and the aggregated teachers' report for each school. The resulting index is a measure of disagreement varying upward from 0 to a maximum equal to the range for the variable pairs. For example, the explicitness of policy variables (MVA2-7, PV249-259) were coded on a three point scale (1= no explicit, 2= somewhat explicit and 3= quite explicit policy). While a minimum discrepancy was zero when agreement occurred, the maximum value was 2 when each source was at opposite extremes. Further, by taking absolute values, we avoided identifying who was reporting a higher value. Such a transformation allows for a straightforward interpretation of the index.

A high DS is an indication of disagreement or dissensus. A positive correlation between a DS and another "raw" variable indicates that lack of agreement on the DS item is associated with higher ratings on that variable. For example, if DS:Policy about discipline is positively correlated with Conflict between Teacher and Principal, we would interpret that the more disagreement between teachers' and principal on this policy, the greater their conflict.

A low DS is an indication of agreement, or consensus. Thus, a negative correlation points to the inverse relationship. We might find that DS:Policy about discipline is negatively associated with Teachers' satisfaction with school. Here we could interpret that the more satisfied the teachers, the greater the agreement between principal and teachers about disciplinary policy. Here, as elsewhere, we are examining patterns of relationships for which we cannot establish a causal relation.

Before reporting our findings, we must raise some issues about discrepancy scores in general. First, they are not necessarily independent of their ingredient members; in fact, usually one member of the pair contributes more to the difference. Second, they are known in psychometrics to be notoriously unreliable. Third, with these data, we can do little to examine these cautions we raise.

Our measure of disagreement is not independent of the variables employed to form it. For example, in the extreme case that principals always rated themselves at the highest possible level on a measure while teachers' aggregated responses varied, the resulting DS would only reflect the variability of the teachers. Correlations of such a DS with other variables would tell us little more than what the teachers' responses alone would tell. It is more likely that range restrictions in one source will cause the DS to be moderately related to the other. There is no systematic cure for the problem although some empirical evidence will be mustered as we go on.

Difference scores are known to be unreliable (Cronbach & Furby, 1970). Given a reliability coefficient for each of two measures, estimates of the reliability of the difference can be made. However, our difference scores have an interesting characteristic. While estimates of within-teacher variability can be made, there is but a single principal report. Without at least one additional value for the principal, (e.g., a score on a second form, on a second occasion or by a second judge), no estimate of reliability is possible.

Results

The analysis of the discrepancy scores is presented in two sections. In the first, we were concerned with the nature of the variables for which we

planned to compute discrepancy scores. In order to inspect these pairs, we computed t-test between pairs as well as correlations. Since we planned to look into sub-groups, analyses were completed within High and Low Complexity schools. Initially, we were concerned with avoiding, if possible, some of the pitfalls of difference scores suggested previously. We wanted to know that if a correlation (or the absence of one) were to appear, that it was not an artifact of the ingredients of the DS's, nor was it redundant with findings reported previously.

The second part of the analysis is much like those reported earlier in this report. Our discrepancy scores were correlated with selected variable within High and Low complex schools. We sought patterns of correlations rather than single ones - and examined the resulting large matrix without reducing variables to composites. Several contrasting patterns were found.

The Nature of the Discrepancy Score Ingredients

Means, variances, correlations and t-tests were computed between the pairs of selected variables for which DS's were considered. This information is shown in Table 9. While analyses were completed both within High and Low Complexity schools, and across all cases, the same pattern emerged. Here we will discuss the nature of these ingredient variables within hicomplex and locomplex schools only.

For over half the variables, t-tests among DS's revealed significant differences between the reports of principals and their aggregated teachers. In the combined data set there was a stronger trend for principals to report higher values than teachers. Standard deviations appeared of appropriate sizes, giving

Table 9

Means of Parallel Items and Intercorrelations Among Them

VARIABLE	e:	HIGH COMPLEXITY SCHOOLS Mean:	SD:	t	r	n	LOW COMPLEXITY SCHOOLS Mean:	SD:	t	r	n
CONFLICT:tchr	PV229	2.17	.86	-.34	.53*	18	2.38	.96	1.38	.58*	13
with tchr	MVA62	2.23	.56				2.07	.81			
CONFLICT:tchr	PV230	1.78	.73	-.32**	.44	18	1.92	.76	-.80	.57*	13
with princ	MVA63	2.40	.81				2.13	1.11			
CONFLICT:tchr	PV231	1.94	.99	.02	.50*	18	2.08	1.11	.91	.51	13
with aides	MVA64	1.94	.57				1.83	.62			
CONFLICT:tchr	PV232	2.17	.74	-.46	.30	18	2.17	.90	.18	-.48	13
with parents	MVA65	2.26	.58				2.10	.39			
PRINC INFORMED:	PV281	4.09	.79	4.43**	.23	23	4.04	.82	2.89**	.32	23
at grade level	MV46	3.32	.49				3.54	.57			
PRINC INFORMED:	PV282	4.48	.66	6.53**	.17	23	4.48	.73	4.58**	.13	23
about discipline	MV47	3.41	.54				3.70	.46			
PRINC's INFLUENCE:	PV244	2.78	.60	3.48**	-.21	23	2.74	.81	4.03**	.27	23
tchng method	MV50	2.22	.39				2.07	.38			
EXTENT OF POLICY:	PV253	2.36	.50	-4.80**	-.53*	14	2.61	.61	-3.15*	-.14	18
stdnt conduct	MVB01	3.41	.44				3.37	.75			
EXTENT OF POLICY:	PV251	1.50	.52	-11.47**	.44	14	1.44	.62	-8.33**	.18	18
curriculum	MVB02	3.00	.37				2.82	.46			
EXTENT OF POLICY:	PV253	2.44	.51	.70	-.29	13	2.62	.65	.87	-.18	13
stdnt conduct	MVA05	2.33	.31				2.42	.39			
EXTENT OF POLICY:	PV251	1.50	.51	-1.05	-.46	13	1.54	.52	-.90	.57*	13
curriculum	MVA03	1.69	.36				1.65	.33			
EXTENT OF POLICY:	PV249	1.78	.55	-1.49	.32	18	1.85	.56	-1.62	.24	13
types of matrls	MVA02	1.96	.27				2.09	.22			
EXTENT OF POLICY:	PV255	2.56	.71	1.25	.27	18	2.77	.44	1.27	-.06	13
prog reports	MVA06	2.35	.31				2.58	.27			
EXTENT OF POLICY	PV259	2.18	.53	.96	.01	17	2.54	.66	2.04	.36	13
chronic absence	MVA07	2.03	.34				2.17	.44			
COMPL. WITH PRINC:	PV337	3.78	.74	1.74	.40	23	4.09	.79	1.70	-.03	23
curriculum	MV54	3.53	.49				3.77	.42			
COMPL. WITH PRINC:	PV338	3.70	.64	2.01	.08	23	3.65	.94	1.20	-.08	23
tchng method	MV55	3.37	.50				3.38	.47			
COMPL. WITH PRINC:	PV339	3.96	.56	4.93**	.24	23	3.87	.76	3.04*	.30	23
stdnt grouping	MV57	3.25	.56				3.39	.48			
COMPL. WITH PRINC:	PV340	4.09	.79	2.65*	.30	23	4.30	.64	2.88*	.33	23
reporting	MV58	3.65	.50				3.92	.42			
FREQ OF PRINC's	PV294	3.78	1.24	5.85**	-.02	23	4.09	1.38	6.62**	.09	23
ADVICE	MV44	2.20	.35				2.16	.38			
SATISF WITH	PV132	3.87	.92	-.72	.67**	23	4.17	.78	-.30	.60*	23
SCHOOL	MV84	3.97	.61				4.21	.52			
AMNT OF MATERIAL	PV211	3.09	.90	1.14	.37	23	2.52	.95	-.34	.46*	23
VAR IN RDNG	MV144	2.89	.44				2.58	.46			

Note: *p < .05, **p < .01
Significance levels change as function of n (maximum n = 23).

no hint of range restriction for either source. As would be expected, the variance for teachers was consistently smaller - due to the aggregation procedure.

The tendency for principals to report higher scores is understandable when the content of the questions is considered. In judging conflict between teachers and principals, it is the principals who report less conflict, while in reporting level of compliance with principal suggestions, it is the principals who report more. Most of the disparate means fall into this pattern; that is, the tendency for principals to report a better picture of themselves and of teachers relationships to them.

There are some interesting cases where no significant difference is noted. When asked to rate "satisfaction with the school," principals and teachers agree. Not only is there little difference in the means, but further, the corrleations between the two are positive and significant ($r=.67$, $p<.01$ in Hicomplex schools and $r=.60$, $p<.05$ in Locomplex ones). This is a slightly unique pair, however. Each source is representing his/her own particular level of satisfaction rather than each reporting on a common feature of the school environment. For this reason, it is interesting to note that the two parties' satisfaction with schools is so highly correlated.

Two variable pairs of key interest are those reporting the explicitness of policies regarding student conduct and curriculum. According to loose-coupling theory, this is the kind of feature which is crucial to the purpose of schools and thus the theory would predict little agreement. Indeed, we find a negative correlation (-.46,N.S.) in Hicomplex schools, and a positive one (.57, $p<.05$) in Locomplex ones. Apparently, there is far greater dissensus about <u>this</u> issue in the Hicomplex schools.[2] The negative correlation (-.53, $p<.05$) between

[2]This is also the only item which exhibits a significantly higher mean DS for the Hicomplex schools.

teachers' and principals' accounts of policy re student conduct in the hi-complex schools, suggests, similarly, that more dissensus exists there in this domain in hicomplex schools.

Although principals report that they are more informed than their teachers perceive them to be, there is little correlation between the two reports. As we shall see below this discrepancy relates to other constructs in interesting ways.

At this early stage, the discrepancy data seem to support the theory of loose-coupling. We find more disagreement than agreement on this set of variables. It would also follow from the theory that discrepancies between teachers' and principals' accounts should not be different in Hicomplex and Locomplex schools. Indeed, examination of the mean DS's reveals that they are essentially the same in both sets of schools, with the exception of one discrepancy variable (policy regarding curriculum).

If loose-coupling is an appropriate model for the schools, then we should have expected data such as these. But in addition, we would expect also that the discrepancies themselves would not correlate with other variables. That is, not only do principals and teachers "float" along together without consensus about the task at hand, their disagreements should not matter to morale, nor should they be related to the other major constructs. No single correlation can refute or support such a prediction, particularly when the reliability of single DS's can be questioned. Rather, we have to examine <u>patterns</u> of correlations between DS's and other variables. To this we turn next.

<u>Correlations of DS with other variables</u>

In order to examine the relationship of DS's to other variables, a large correlation matrix was prepared. The 22 DS's were correlated with the sets of

variables representing the ten constructs previously discussed. That is, DS was crossed with variables measuring:

- Teacher Morale
- Teacher's Satisfaction with Decision-making by principals and by teachers
- Reports of Principal Supervision by principals and by teachers
- Reports of School-Wide Policies by principals and by teachers
- Reports of Principals' Influence
- Teachers' Collegial Relationships
- Principals' use of Ad Hoc Committees by principals and by teachers
- Reports of Compliance with Principals' Requests
- Reading Achievement Scores at Grades 1 Through 3.

Separate tables were prepared for High and Low Complexity schools. We began to look for patterns in a manner similar to the preceding analyses. General trends and patterns are reported below.

DS's of hicomplex principals' informedness and conflicts in the schools show a general tendency to correlate negatively with teachers' accounts of compliance (-.27 to -.50, and -.15 to -.52 respectively), with teachers' morale (-.12 to -.50 and -.06 to -.44) with teachers' accounts of supervision (-.14 to -.54), and -.11 to -.49 with teachers' accounts of principal support (-.10 to -.45 and -.08 to to -.43). Hardly any similar patterns are found in locomplex schools. Note that the variables that correlate negatively with dissensus (i.e., positively with consensus) in the hicomplex schools are all either measures of personal interaction (e.g., support) or personal satisfaction (morale). Note also that the areas of consensus which correlate with such variables have a strong interpersonal flavor.

While this is an emerging pattern in the hicomplex schools, the pattern in the locomplex ones is distinctly different. First, DS's pertaining to conflict or principals' informedness do not generally correlate with any of the above mentioned variables. Second, the only DS's which do enter into a patterned relationship with any of the variables are the ones pertaining to school-wide policies. Dissensus among teachers and principals about the existence of policies correlate negatively (thus, consensus correlates positively) with teachers' accounts of compliance, and to an extent also with teachers' SDM (correlations with compliance range from -.39 to -.78, and with SDM from .28 to -.82). No patterns of similar strength and consistency are found in the hicomplex schools.

In addition, while dissensus about school policies is negatively associated with compliance in locomplex schools, consensus about compliance is negatively associated in hicomplex schools with teachers' morale (-.07 to -.48), with teachers' accounts of principal supervision (-.09 to -.56). There are no such patterns in the locomplex schools.

The emerging overall difference between the two sets of schools becomes quite evident. Consensus in hicomplex school in all areas, save school policies, correlates positively with measures of satisfaction and personal-style governance. Consensus in locomplex schools does not correlate with those, and only consensus about school policies correlates with compliance. Thus, it appears that consensus about different domains is important for different issues in the two sets of schools.

In light of our preceding analyses we can speculate that only consensus about central issues is significant. And it is significant only with respect to those domains in the school which are central to its functioning. Thus, consensus regarding policies, a domain noted earlier to be central to locomplex schools, relates in these schools to compliance. But consensus about policies, a domain of lesser importance in hicomplex schools, does not really matter one way or another for these schools. What does matter there is consensus about teacher-principal relations; and it matters with respect to personal satisfaction of teachers and

with respect to interpersonal contacts, two areas of centrality in hicomplex schools.

Note that we are not dealing here with whether there are more or are less conflicts or explicit policies in the schools but rather with consensus about the extent of their existence. Thus, the data need to be read as suggesting, for example, that regardless of how explicit the policies are, it is the consensus about their existence that relates to compliance in locomplex, but not hicomplex schools. And regardless of how much conflict there is, agreement about its existence is related to teachers' perception of supervision in hicomplex, but not in locomplex schools.

Discussion

Analyses of disagreement between teachers and principals yield a few new findings which are consistent with the ones we have reported earlier. We found no consistent mean differences between the amounts of disagreement in hicomplex and locomplex schools. Consensus and dissensus seem to be equally distributed in the two sets of schools. Loose-coupling theory might have predicted such a finding, and regarded it as supportive evidence. Yet, it is still a somewhat surprising finding inasmuch as hicomplex schools should be expected to have many more disagreements, given their fluidity and complexity. Yet, they do not differ from locomplex schools, hinting at the possibility that hicomplex schools, relative to their complexity, are fairly well coupled. But this is only a speculation, based on the amounts of disagreement or dissensus in locomplex schools, which we treat as a baseline.

Such speculations need, however, to be qualified. First, the absence of differences does not constitute valid evidence. Second, as we have seen earlier, there seems to be a structure-by-governance interaction (SGI) which, when applied to the issue of consensus, suggests that both types of schools can be equally

coupled on the average, but can differ as to where this coupling takes place. Thus, the question should not be what type of school is more or is less tightly coupled on the average but rather what roles do consensus and dissensus play in each setting, and through what mechanisims does coupling operate in each.

Such questions appear to be warranted in light of the absence of other consensus differences between the two school settings. We found some pairs of items to be well intercorrelated while others to intercorrelate poorly or even negatively. But, generally, the two sets of schools do not differ in this respect. That is, pairs of items that intercorrelate (positively or negatively) in one set of schools tend to be intercorrelated also in the other. The only two exceptions are either statiscally non-significant (conflict between teachers and parents) or outstanding in other respects as well, a point to which we will return later on.

The same holds true for mean differences between teachers' and principals' responses within school settings. Whenever principals (or teachers) receive higher scores in one school setting, they receive similarly higher scores also in the other. Thus, it becomes evident that on the average the two types of school setting experience similar amounts of consensus or dissensus in more or less the same areas.

But such similarities do not mean that the two school settings are not dissimilar with respect to the roles or functions that consensus and dissensus serve in each of them. Our analyses showed that, when correlational patterns are compared, consensus about principals' informedness, conflict and compliance is related to personal-satisfaction and to personal-contact measures in hicomplex schools. In the locomplex schools only consensus about the existence of explicit policies

relates to teachers' compliance with principals' requests. Thus, consensus about more issues correlates with more variables in the hicomplex schools, suggesting that it serves there a more critical function. In addition, we find that consensus about different issues matters with respect to other things in the two school settings.

As we have seen before, hicomplex schools seem to benefit more from personal contact, and indeed, these are also the areas with which consensus is most strongly related. In locomplex schools, which benefit most from teachers' autonomy within the boundaries of explicit policies, we find consensus about the latter to be important; it correlates neither with support nor with supervision, but with teachers' compliance. Moreover, in locomplex schools, consensus about policies correlates positively with achievement, while it does not in the hicomplex schools, further hinting at the importance of explicit policies and consensus about them in locomplex schools.

This, then, leads to the possible conclusion that consensus plays a significant role when it pertains to areas of central importance to a particular kind of school setting: personal exchanges in more complex schools and explicit policies in less complex ones. Consensus in areas which are of lesser importance to the functioning of a particular type of school (e.g., consensus about compliance in less complex schools and consensus about policies in complex ones), are quite insignificant.

It is quite possible that schools either need consensus about those issues which are central to their functioning, or that other central phenomena in the schools produce consensus about relevant issues. One way or another, we are lead to a second tentative conclusion, namely that an important issue in the study

of school governance is not just how much of one or another procedure there is, but rather--what roles the consensus about its existence serves. Consensus about policies in locomplex schools may well serve the function of creating that framework of standards within which teachers' autonomy can be exercised. This is surely a different function from the one served by consensus about principals' informedness in hicomplex schools. The latter consensus may well serve as a basis on which principals can establish their informal supervisory behaviors and requests for compliance.

Finally, a word of caution.

The patterns which we have described are by no means perfect and there are some irregularities. In particular, disagreement concerned with policy about curriculum is positively related to compliance in locomplex schools (and not at all in hicomplex ones). Thus, it seems that the more teachers and principals disagree, the more the teachers comply with requests in this domain. Also, teachers' and principals' responses to this item intercorrelate negatively in hicomplex schools (-.46) and positively (.57, $p<.01$) in locomplex ones. Finally, this is the only DS on which hicomplex schools show significantly more dissensus than locomplex ones ($t=2.99$, $p<.01$).

Given our reservations about the reliability of DS's, one should perhaps overlook such irregularities and focus instead on more general patterns. Some cases, like the one illustrated above, may have to be regarded as no more than spurious--a result of small samples and unreliable measures.

CHAPTER II

Reflections and Commentary

THE DIFFERENTIAL SCHOOL REALITY OF TEACHERS AND PRINCIPALS: ORGANIZATIONAL OR PHENOMENOLOGICAL VARIABLES?

Gavriel Salomon

The data which we have analyzed and presented in the preceding chapter highlights among other things also the richness of "subjective" evidence pretaining to the environment of schools. The present part of the report is devoted to a few reflections on the value of such data to the study of educational organizations.

There are numerous ways to gain insight into the nature of organizations. One such way, and a well established one at that, is to study organizations by adopting a structural approach. Such an approach emphasizes "objective" measures of structure (e.g., size) and function (e.g., processes of decision making) relates these to some outcome measures such as, say, morale. achievement or absenteeism. Using such an approach, Astin (1977) found that students in large schools are less involved in school affairs and governance than students in small schools.

The works of Blau (1970; Blau & Schoenherr, 1977) or of Miles (1975) exemplify such a structural approach to the study of organizations. For Miles, the organizational scholar should be concerned with how variables such as organizational goals, technology, and structure relate to each other and how they determine managerial behavior and organizational performance. This approach reflects the structural-contingency perspective on organizational behavior, which tended to dominate the organizational literature since James Thompson's Organizations in Action was published in 1967. The "experiential world" of organizational participants, the subject of many earlier analyses, is not relevant

to such inquiry--except as informs the researcher about the reality of organizational functioning. The ways in which participants define, perceive and interpret "objective" structures are not considered important issues (Mangham, 1978).

Three important assumptions seem to implicitly underly structural approaches to the study of organizations. The first is that structural components of the organizational environment have direct influence on the behaviors of participants. Perrow (1970) studied the impact of technology on participation, and Cohen, Deal, Meyer and Scott (1976) studied the impact of early instructional technology on later teacher collaboration. The ways in which technological changes were perceived, or the effects they could have had on moderators such as experienced autonomy, were not studied.

The second implicit assumption is that the assumed high correlation between organizational "inputs" and behavioral "outputs" is also stable. That is, mediating, perceptual evidence can be left out as a systematic rule. The possibility that in some cases perceptions can be better predictors than organizational structures is not often considered. However, notice how in our data the division into more and less complex schools (a structural dimension) hardly accounts for any "outcome" variance at all (e.g., morale or achievement), while perceptual differences within the structures account for impressive portions of variance. This does not mean, however, that such a pattern is a general rule. Rather, it indicates that such a pattern can be the case, and that one should be aware of its possible existence.

The third assumption is that structural variables are to be treated as independent variables while behaviors are to be treated as outcomes. But as we shall suggest below, also this assumption cannot be taken for granted, given, say, the possibility that organizational "inputs" (e.g., school's "code" for disciplining students) are a function of how participants perceive their situation

(e.g., how disruptive students are), thus leading to circularities (Duke, 1978).

It would be quite difficult to disprove any of these implicit assumptions. Whether perceptions of structures influence behaviors, or influence even the structures themselves is very much a question of belief, point of view, or paradigm. One paradigm would suggest that organizational structures are "out there" and thus, their effects or systemic interaction with people need to be studied. An alternative paradigm would claim that "organizational reality" is what people perceive it to be and hence perceptions, interpretations, and attributions are the "stuff" for study.

The paradigm one uses is a matter of choice. Indeed, it can be argued that some structural variables influence behaviors directly without much modification of intervening perceptions, but others do not. Rippert (1969) studied the effects of teachers' expectations on students' behaviors by inducing in teachers expectations for creative behaviors. The expectancy hypothesis was supported, but only with regard to teachers who did not doubt the validity of the experimental treatment. Quite clearly, teachers' interpretations of the credibility of the information they were given played a major role.

Similarly, in some cases structures and behaviors are strongly correlated, but in other cases they are not. In the latter instances, behaviors correlate more strongly with people's interpretations of the structures, not with the structures themselves, and interpretations need not always correlate with the "real" events or structures. The relatively poor convergent validity that we have found between teachers' and principals' accounts of the same events attest to that. Pennings (1973), similarly, found little agreement between "objective" measures of organizational centralization and formalization and survey data of the same, concluding that "the question of whether some existing operational definitions

of structural attributes unambiguously grasp "pure" phenomenon has to be answered in negative terms" (p. 701).

Moreover, in some cases, behaviors can be assumed to be determined by structures, while in other cases structures--or rather their perceptions--are determined by behaviors. What evidence do we have to show that school policies influence teachers' morale and not vice versa? Salancik (1975) argues, for example, that when the outcomes of action are ambiguous ("school success" could easily be one of them), stated intentions replace the outcomes. Thus, intentions--supposedly an antecedent--become in effect an outcome. Bandura's (1978) conception of reciprocal determinism appears to account also for such organizational phenomena. Sometimes an organizational factor will have overriding powers, as may be the case when traditional classrooms are turned into open spaces. In other instances, cognitive apprisals and a priori expectations may have overriding powers, determining the perception of structures as well as behaviors. Thus,

> From the perspective of reciprocal determinism, the common practice of searching for the ultimate environmental cause of behavior is an idle exercise because, in an interactional process, one and the same event can be a stimulus, a response, or an environmental reinforcer, depending on where in the sequence the analysis arbitrarily begins. (Bandura, 1978, p. 347).

But if everything--directness of influence, correlations of structures with behaviors, and directionality of effect--is variable and moves on a sliding scale, then ignoring the ways in which participants perceive organizational events and structures may be a grave oversight. Size of school may indeed exert direct influence on teachers' morale, but is the same true of students' SES? The analysis of structural variables, as Manghan (1978) writes, "is a fit and appropriate procedure to those areas of social and organizational life which are not mediated by processes of interpretation and definition" (p. 10). But how is one to tell in advance what these areas are?

Consider one of our less important findings. We were not surprised to find that students' SES is highly and positively related to their achievements. SES, one could easily claim, is no more than a dummy index, which while concealing important psychological information, is a rather objective demographic measure. Or is it? Even such an ostensibly objective measure is subject to different perceptions. Teachers' accounts of their students' SES correlate .77, .77, and .76 with the achievements of their first, second, and third grade classes, respectively. Principals' accounts correlate only .56, .70, and .65 with achievements (two of the three pairs of coefficients are significantly different at $p<.05$). Moreover, teachers, on the average, perceive their students' SES to be significantly higher than principals' perceptions. And these are differences pertaining to a demographic variable, which is not supposed to be subject to different attributions.

Quite clearly, if the perception of SES varies, then the perceptions of other, "softer" organizational variables such as the existence of controls, policies or influence would vary even more. And so they do. It is their differential perception that constitutes the "reality" in which teachers and principals operate, not the "objective" structures. As Bronfenbrenner (1977) argues, "the relevant features of the environment include not only its objective properties but also the way in which it is perceived..." (p. 516).

The notion that organizations, schools included, need to be observed through the eyes of the people inside them is not really new. Indik (1965), for example, suggested a linkage model according to which organizational variables (e.g., size) and behavioral outcomes (e.g., participation) were linked through the mediation of organizational processes (e.g., amount of communication) and psychological processes (e.g., attraction). Moos (1979) argues, similarly, that

while environmental, organizational, and personal variables interact, it is one's cognitive apprisal of these that affects efforts at adaptation and coping. (Indeed, as Schmuck, 1978, has shown, it is a student's perception of his/her sociometric status that accounts for his/her behavior, not the actual status measured independently).

However, once the "reality" of organizations is discerned from the interaction between organizational and perceptual variables, one can easily discover that there is no single "organizational reality" to speak of. Indeed, a single organizational structure can be assumed to exist in schools only when non-perceptual ("objective") measures are taken. But once perceptions are admitted, different groups of individuals and even different individuals are likely to yield quite disparate perceptions.

The methodological answer to a Rashomon-like diversity of perceptions is simply to average over the responses of individuals who constitute an a priori class, such as "students," "teachers," or "administrators." Moos (1979) averages over the responses of students in a given classroom to arrive at indices of "classroom climate," while we averaged over the responses of teachers in each school to obtain a measure of teachers' perceptions. Such a solution is a reasonable compromise, provided that the variance within each such a priori class does not exceed that between classes. But even when that condition is met, one is still left with the diversity of perceptions of different classes, each of which operating within its own "reality."

The data we have analyzed and which was obtained from both teachers and principals, quite clearly shows how the so-called organizational events taking place in schools often constitute not one organizational structure but at least two. And if we entertain the possibility that perceptions interact with

"objective" organizational variables--in our case, school complexity--then we may be speaking of two pairs of conceptions about schools.

Such disperate conceptions of schools, differentially held by teachers and principals in schools whose complexity differs, are by necessity "loosely coupled." By virtue of their different roles, statuses, contacts with students and the like, teachers and principals are bound to see even the same events in a different light and attribute to them different meanings. What may appear to principals as a way to share responsibilities (the use of ad hoc committees) appears to teachers in complex schools as the negation of support. But do such differences indicate that the school is a "loosely coupled" system"? The answer depends on how one wants to examine the data. We found the more complex schools to be somewhat better coupled than less complex ones when convergent validities in some areas were examined. These areas seem to be related to informal exchanges. But we found more convergent validity in the less complex schools where policies were concerned. Yet, when instead of examining correlations we examined overall differences, the two types of schools were equally loosely or tightly coupled.

Choosing to examine organizations through participants' perceptions has, as we could have seen, important payoffs. Without such an approach we could have neither found that to certain governance activities (e.g., providing resources) unanticipated meanings (such as non-support) are ascribed, nor what role consensus and dissensus play. Yet, even when perceptions of organizational events are examined, we still assume them to serve as mediators between the "real" events and some behavioral "outcomes." Indeed, this assumption is implicit in the division of schools into more and less complex ones.

More specifically, we take the structural variable--complexity--to be the independent variable and assume that its values are differently perceived by different parties, thus leading to differential outcomes. Given, we say, a complex school, teachers perceive interpersonal exchanges as facilitatory, experiencing higher morale, delivering more compliance, and even producing better students. Given less complex schools, policies are perceived as more facilitatory, and so on.

But is the underlying assumption to be trusted on face value? Yes, one would be inclined to answer. After all, perceptions of influence can be a function of school complexity, but not the other way around. And yet, one may wonder if taking such a "fact" for granted is justified. Perceptions do not only mediate between external organizational variables and behavioral "outcomes" and thus add to the accounted for "outcome" variance. It stands to reason that, on occasion, perceptions create the environmental "reality" in which teachers and principals operate. As Bowers (1973) argues:

> The situation is a function of the observer in the sense that the observer's cognitive schemes filter and organize the environment in a fashion that makes it impossible ever to completely separate the environment from the person observing it. (pp. 328-329)

Some circularity can be discerned from our analyses. What principals in low-complexity schools claim to be explicit policies appear to be perceived by teachers as unwarranted intrusions. Whatever the exact nature of those principals' behaviors are, they correlate negatively with teachers' morale, and with students' achievements. What teachers in noncomplex schools perceive as "policies" is positively related to morale, achievement and compliance. Yet, teachers' and principals' accounts of the existence of policies are only moderately correlated.

Teachers simply benefit from a "reality" of policies which is of their own making. It is of little importance in this context, whether teachers' perceptions of policies are "accurate." But it is important to note that that organizational component--explicit policies--consitutes different "organizational realities" for teachers and principals. To use Weick's (1976) definition of "loose coupling"--these "realities" can be said to be somehow correlated but each of them "preserves its own identity and some evidence of its physical or logical separateness" (p. 3). Such "realities" are real, as W. I. Thomas (1928), p. 572) suggested: "If men define situations as real, they are real in their consequences."

Let us assume that Perrow (1978) is correct in quoting recent claims that "organisms differentiate in highly stable environments, not turbulent reactive ones, and become simpler in turbulent ones" (p. 117). What this may suggest is that people's perceptions of their initially complex, turbulent and fluid environments "make" these environments simpler, while people in initially stabler environments "make" their environments into more complex ones. As a result, complex environments become to be experienced as somewhat simpler, and simple ones as more complex. Indeed, we found the responses of teachers in less complex schools to be more differentiated in most respects (save their perceptions of policies), and those of teachers in more complex schools to be more strongly interrelated.

Our data analyses provide only scant additional support of this possibility as this issue was not dealt with by the original researchers. Still, neither principals nor teachers in the more complex schools report having more internal or external conflicts than their counterparts in the less complex schools. This is somewhat strange since in hicomplex schools there are more teachers and

aides, more movement of teachers in and out of classrooms, more need for collaboration, more teachers' influence on certain activities, more connections with parents, and the like. All these would seem to invite more opportunity for conflicts, and yet, such are not perceived to exist in any greater number than in locomplex schools. It appears that perceptions of conflict regressed toward the mean, making the complex schools to be perceived as less complex, and the traditional schools as more complex.

All this does not mean that structural variables never exert any influence, nor that structures should not be conceived of as independent variables that interact with perceptions and attributions. Yet, we cannot dismiss the possibility that on occasion, perceptions and attributions change (retroactively, if you will) the perceived nature of structural variables. And as Perrow (1978) points out, the study of structures, as if they are the undisputed "inputs," may be a mystification.

To further complicate matters, yet consistently with the arguments, also "output" variables need not automatically be seen as such. "Objective" measures of structure can be shown through detailed path analyses to affect other variables (e.g., collaboration, compliance, achievement) which can thus be dubbed as "outcomes." But, again, this need not be the way participants <u>experience</u> them. Their "punctuation" of the flow of events may be quite different, e.g., they may attribute the presence of policies to the decline in students' achievements <u>in spite</u> of what the path analyses may show. What "reality" are we to consider as more revealing?

Moreover, we may even find that the causal chain of events is differently perceived by different classes of respondents; and it is their causal attributions

that are crucial to their behaviors, not the "real" chain of causality (Weiner, Russel & Lerman, 1978). Suppose we found that teachers in locomplex schools attribute their compliance with principals' requests to the existence of certain school-wide policies, as they perceive them. (In fact, the two are correlated but the causality read into the correlation is for expository purposes only as the data do not yield to causal analyses). Suppose also that principals attribute teachers' compliance to their personal influence. These are two different causal "realities" that guide the behavior of principals and teachers. The empirical, historical, fact that policies were decided upon because of, say, outside pressures, independently of either teachers' compliance or principals' influence, important as it is, fails to reflect the "realities" which guide the behaviors of the parties involved.

To summarize the arguments thus far, our data analyses direct our attention to the importance of "soft," "subjective" information in studying organizations. We argued that studying only structural variables, measured unobtrusively, is based on three implicit assumptions. First, that structural variables relate directly to behavioral "outcomes" without any perceptual mediation. Second, that there are stable relations between structures and behaviors. Third, that structures are the "inputs" and behaviors, perceptions, and the like, are "outcomes."

Not that these assumptions are necessarily wrong, but they are not always correct either. It is neither clear when, say, the technology or the goals of an organization affect behaviors such as cohesiveness, directly, and in stable ways, nor when the patterns of influence are reversed. Thus, we argued, the way people in organizations perceive the structures and the meaning and causality they attribute, cannot be overlooked. More often than not such "subjective" perceptions mediate between structural inputs and behavioral outcomes, while

sometimes such perceptions may even be the inputs themselves. Perceptions serve as the organizational "reality" in which people function.

This, however, leads to the consideration of multiple "realities" within the same organizations, each of which is exerting its unique influences. Moreover, while we usually assume perceptions to vary as a function of structure and to interact with structure, we need to leave the door open to the possibility that perceived structures are the function of attributions: the experience of size resulting from feelings of alienation (Stokols, 1975), or the experience of school complexity resulting from the introduction of more differentiated perceptions by participants.

Once peoples' ways of perceiving their organizational environments are admitted, linear hypotheses become questionable. One can treat environments topologically "as a nested arrangement of structures, each contained within the next" (Bronfenbrenner, 1977, p. 514). Thus, people's experiences, reflections and perceptions would be taken as the innermost box. But one can also treat them as existing on all levels. Members in organizations have perceptions, often based on stories and myths, as well as "explanations", pertaining to most if not all levels of the organization (e.g., Clark, 1972; Meyer & Rowan, 1977). Such stories, sagas, and myths generate beliefs and expectations which interact with organizational components. No wonder Bronfenbrenner (1977) suggests that "the principal main effects are likely to be interactions" . . . (p. 518).

Such interactions are not necessarily linear. More likely, they are reciprocal. For example, teachers do not perceive themselves as participating in decision making at the school level (even though ad hoc committees are used), cultivate the perception of poor self-efficacy, and when their principals initiate certain policies, as a response, teachers interpret these as infringements on their

autonomy. Such interpretation further facilitates their perception of poor self-efficacy.* Thus, "people's efficacy and outcome expectations influence how they behave, and the environmental effects created by their actions in turn alter their expectations" (Bandura, 1978, p. 346).

Quite clearly, organizations have an influence on such reciprocal interactions. For example, they may induce in people the relinquishment of control (Bandura, 1979). Our analyses suggest that this is possible when policies exist and seem to allow autonomy-within-limits without taxing one's time and energy. Reciprocity enters here when the organizational environment is perceived as stable and reasonably well policy-governed leading to teachers' negative reactions when called upon to partake in, say, Ad Hoc committees.

Before concluding our reflections on the issues considered here, we need to add two qualifications. The first, a methodological qualification, concerns the reliability and validity of perceptual, attributional data. The danger of encountering artifacts when relating different kinds of responses obtained from the same respondents is a well known one.

We were aware of the possible artifactual nature of the higher correlations we found in the data between teachers' accounts of, say, supervision, and the same teachers' accounts of, say, morale. Fortunately, not always were teachers' responses better intercorrelated than principals' and teachers' responses. Furthermore, we found also teachers' responses to differentially correlate with State of California achievement scores, suggesting that we had fewer artifacts in the data than suspected. To the extent that such data can be generalized, the danger of response sets, while existing, need not be considered necessarily a severe threat to the validity of perceptual data.

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*As we stated earlier, our analyses provide only the correlations among these variables; the causal links are speculative.

Our second qualification concerns the applications of research findings to practical interventions in organizations. Organizational variables are often easier to change than perceptual ones. The latter are subjective, often hidden, and not easily subjected to change. It is easier to believe that schedules, decision-making processes or communication networks are the crucial "inputs" and change them than to change perceptions. If our data were based on larger samples we could have tried to recommend to principals in hicomplex schools to invest more energy in informal exchange and evaluation processes. But we know that not the processes are crucial but what is being attributed to them. Do we know how to plan a change in those?

DIRECTIONS FOR COMPARATIVE RESEARCH ON SCHOOL GOVERNANCE

Commentary on Secondary Analyses of Salomon, King and Yuen

by

Joan E. Talbert

Introduction

The Salomon, King, and Yuen data on local school governance are compelling: teacher morale appears related to different principal roles in the two school samples. This central finding of the secondary analyses supports earlier observations of Cohen and her associates (1978, 1979). However, distinctions between the two principal roles become clearer when the data are not organized by standard organizational-theory constructs and causal assumptions. The "disorganized" view of principal-teacher relations -- focused on teacher morale -- is inconsistent with two major theories about school administration. One portrays the principal as manager of instruction (based on rational-organization theory); the other portrays the principal as detached from instructional activities (based on loose-coupling theory). In effect, central models of school organization do not interpret the data presented by Salomon and his associates nor do other "ideal" conceptions of the school administrator's role.

This commentary uses the secondary data to revise and extend theoretical perspectives on school governance. Points of intersection among the data, sociological literature on the school administrator's role, and current models of organization suggest new theories which relate the principal's role to school conditions. The analysis aims both to interpret the secondary data and to suggest new "models" and directions for comparative research on school organization.

Rationale. The attempt to offer new theory seems justified on grounds of both the substantive importance of the data and the trend of comparative school research. First, teacher and school morale seem central to the educational enterprise. Second, we know little about how principals influence local school morale; and the data suggest that the influence is substantial and

specific to school conditions. Third, models or organizaton have directed research attention away from such school phenomena; and the potential value of new lines of research needs to be argued, rather than assumed.

The role of teacher morale in the educational process has yet to be demonstrated; but, intuitively, it seems important. School morale may influence the amount of teaching "energy" in the system and, in turn, may affect students' involvement in learning. Research addressing "school effects" on student cognitive development has not assessed directly the role of teacher morale. Sociologists generally have been concerned with equity implications of school organization: the status effects of curriculum tracking (e.g., Heyns, 1975), grading practices in the classroom (e.g., Cohen, 1979). Economists and psychologists have recently considered the cognitive implications of the local school variables, suggesting the need for measures of teacher "effort" (Levin, 1978) and the relevance of school "ethos" to school-level achievement gains (Rutter, 1978). Organizational variables associated with school 'effectiveness' have yet to be identified.

Sociological literature on the principal role generally assumes that principal-teacher relations do not vary much across schools and are not central to the educational process. The principal has been portrayed as mediating parent-teacher relations (cf., Bidwell, 1970; Lortie, 1976) or as maintaining the "logic of confidence" in teachers' professionalism (Meyer and Rowan, 1977). The administrative <u>roles</u> associated with these functions, and the possibility that they may depend upon changeable conditions of the schools, have not been considered seriously. The notions that principals may serve an instructional "support" role in complex schools (Cohen and Miller, 1979) and that they may influence teacher routines through exchange processes (Talbert, 1979) do not suggest why <u>different</u> principal roles support morale

in different kinds of schools. Broader theoretical perspectives are needed in order to propose which "role model" applies here.

Organizational analyses of school governance are grounded generally in rational-theory models of school authority relations. Local school administrators officially are assigned the job of directing instructional activities; they perform better or worse, and with varying contingencies, in this capacity. The vast literature on policy and program implementation at the local level reflects, and continues, this "top-down" line of thinking. Much of the research documents nonimplementation (cf., Sussman, 1977, Thomas, 1978) and supports emerging consensus within the field that U.S. public schooling is a "loosely coupled system".

While the loose-coupling model of school organization challenges rational-theory logic (see Part II), its development and wide acceptance has not generated new lines of comparative research on schools. Instead, rational-theory views are extended by "more-or-less" questions, such as: "are the schools becoming 'more' tighty coupled as centralized policy proliferates?"; "what kinds of instructional activities require 'more' tight coupling in the schools?" These questions refer generally to the degree to which local administrators control and coordination of teaching activities. Yet, loose-coupling theory offers a different logic of system analysis and possibilities for finding different kinds of coupling patterns in local school systems. It would seem that the new organizational model often has been rather misconstrued in the literature and that its potential for guiding new lines of applied research has not been tapped. The second part of this commentary suggests that loose-coupling theory may be particularly useful for research on school morale and local system responses to the centralization trend.

Strategy

The secondary data are used to propose two new lines of research on local school governance. The theoretical perspectives are grounded by central features of the data: their focus on teacher morale, distinctions between the two school samples, and the alternative principal roles associated with teacher morale. They derive from existing models of organization which pertain centrally to one or more of these school-organization phenomena. Part I offers a revision of structural-contingency theory (based in the rational-organization model) in terms of school governance principles. Part II offers an extension of institutional theory on school organization (based in the loose-coupling model) to include loose-coupling notions of social interaction.

The secondary data are connected to the structural-contingency model by origin (and partial extension of the earlier analysis strategy) and by their interaction patterns. A rational-theory interpretation of the sample distinctions and principal roles is avoided by assuming a governance function consistent with stated teacher preferences.

The data are tied to the loose-coupling model by their focus on teacher morale. The paradigm is concerned centrally with bases of social understandings, beliefs, and trust in systems like the schools. Institutional theory offers an interpretation of school sample distinctions relevant to internal social relations. The symbolic-interaction view of social relations in loosely-coupled systems provides conceptions of the patterns of principal-teacher relations associated with moreale in the two samples.

The perspectives offered in this commentary are crude mergings of their "parent" theoretical models and the secondary data at hand. They are not competing interpretations of the data; though the arguments propose different

models to describe principal-teacher relations in the 'complex' schools. More basically, each theoretical perspective suggests a set of variables and general propositions which could organize lines of comparative, field research on school governance and morale. Their value depends upon whether or not they can direct researchers to new understandings -- and recommendations -- about local school governance.

The quote below is offered as a caveat to those apprehensive about theory-grounded research or about research-grounded theory. It derives from an argument for field-responsive theory and research in the domain of business management policy.

> Theories are useful because they shortcut the need to store masses of data. One need not remember everything one has observed about a phenomenon; instead one stores a theory, an abstraction, that explains the observations consistently. When such theory is lacking, each new bit of data is isolated input that must remained unexplained...every new theory requires a creative leap beyond the available evidence (Henry Mintzberg, 1976:5).

The Structural-Contingency Perspective on School Governance

Earlier analyses of the EFT, school data were grounded in a dominant line of organizational theory and research. The tradition called for comparative analyses of the "structures" of organizations with common goals and varying "environments" and/or "technologies". The "structural-contingency" model which motivated this line of work can be characterized in terms of its logic and principles of organization. The logic is interactionist: internal arrangements "work" to the extent that they fit central features of an organization. Its principle follows from rational-organization theory: internal arrangements function to control and coordinate central work activities.

The following discussion evaluates the secondary analyses and the data presented by Salomon, et. al. in terms of structural contingency model and research tradition. First, I review the central theoretical argument and results of the earlier tests of the model with the EFT data. I discuss the secondary analyses' departures from standard methods for analyzing such data and I suggest why the 'unorthodox' strategies provide a preferable test of both the logic and principles of a structural-contingency model of school organization. The last section considers the interaction patterns shown by the school data. Here I evaluated a rational-theory account of the patterns and suggest an alternative, field-grounded principle of school governance. This principle offers a structural-contingency interpretation of the secondary data and suggests directions for further research on teacher morale and school governance.

The Structural-Contingency Model and Previous EFT Studies

Most generally, this theoretical model proposes that organizational structures represent rational adaptations to conditions of the environments and technologies of organizations. Dimensions of an organization's environment proposed as relevant to its internal structure include the heterogeneity and stability of "boundary" relationships relevant to input-output flows (see Thompson, 1967, Chapter 6). Organizational technology has been defined variously in the literature (see Scott, 1975, for a typology of technology variables). A common conception refers to the degree to which "production" entails interdependence of parts of the organization (Thompson, 1967; Chapters 2 and 5). Structural variables, referring to the demarkation and arrangements of organizational units and the patterns of relationships among organizational actors, are regarded as dependent upon these conditions of environment and technology. Within this tradition, organizational structure is portrayed according in rational-theory terms: rules (formaliaztion), supervision and evaluation (centralization), division of labor (differentiation), and other dimensions of internal structure serve to control and coordinate work activities.

The notion of structural-contingency implies that certain organizational arrangements are appropriate only under certain conditions. Presumably, an "inappropriate" structure interfers with an organization's performance. All else being equal, an organization with an unstable environment and centralized decision making, or a system with stable environmental conditions and decentralized decision making, should perform less well than "competitors" which have decision-making structures consistent with conditions of their environments. The model implies, then, interaction effects between a) conditions of the environment and technology, and b) the internal structuring of organizations, in relation to c) criteria of performance.

The vast majority of studies grounded in this theoretical model have not tested the contingency notion it implies. Rather, the research has tested what could be referred to as "structural-dependence" propositions, i.e., the model's claim that organizational structures represent adaptations to environmental or technological conditions. As Argyris (1972) and others have pointed out, this translation of the model is essentially a normative theory prescribing administrative behavior. Evaluation of the contingency model requires tests of the condition-structure interactions with respect to independent criteria of organizational performance.

The early analyses of the EFT data followed the standard practice of assessing structural correlates of organizational environmental and technology variables. They examined the extent to which variation in school operations could be accounted for by variation in environmental conditions and aspects of the instructional programs of schools. They found that, in contrast to the general patterns observed for business firms, school structures generally are not adaptive to characterisitics of the schools' environments or instructional programs (Meyer, et. al., 1978). The negative findings were interpreted correctly as evidence that school organizations generally do not conform to the rational model developed from, and supported by, research in a variety of other organizational settings. The loose-coupling model, discussed in the final section of this commentary, emerged partly as a theoretical account of the apparently "irrational" organization of schooling. What was not addressed by the early EFT studies was the question of consequences of "maladaptive" school structures, or the interaction effects of school conditions and structures.

The studies by Cohen and her colleagues (1977, 1979) provided initial tests of the structural-contingency model for schools. They analyzed deter-

minants of teacher satisfaction with work conditions (1977) and with decision-making processes (1979) for two samples of schools distinguished according to the complexity of their internal and external environments (the former referring to instructional technology, the latter referring to size and special funding). According to the model, structures supportive of teacher morale should differ under the two sets of school conditions. While findings of these studies were somewhat contradictory, they represent an important extension of the research tradition.

The analyses by Salomon et. al. of data for school samples defined according to complexity of instruction and environment, and the analysis of teacher morale in relation to features of school organization, implicitly grounds the secondary analyses in the structural-contingency model of organization. Following Cohen's work, they consider the extent to which the complexity of school organizations interacts with their structure, or reported administrative practices, in relation to criteria of teacher morale. The student achievement data and reports of teachers' compliance with principal directives are introduced as additional criteria of school "performance".

Departures from the Comparative Research Tradition

Salomon and his associates adopted strategies for analyzing the school organizational data which clearly distinguish their work from the standard procedures in comparative research. Their measurement strategy is unorthodox in that they analyze separately items relevant to standard organizational constructs. For example, reports of the level of rule enforcement in a school and reports on principal evaluation of classroom instruction are treated as separate elements of school organization structure. Organizational researchers generally regard such items as indicators of centralized control and aggregate reports to form an index of the organizational construct. Further, their

separately analyze principal and teacher reports on the same variable -- departing from the standard practice of using either survey (aggregated responses of organizational members) or institutional (official, administrators' responses) construct measures. (See Pennings, 1972, for a discussion of these alternative measurement strategies). Finally, they use simple correlational cluster analyses which avoid the standard linear-model assumptions of comparative organizational analyses.

The researchers justify these departures from standard practice mainly on empirical grounds. For one, some inconsistencies among the findings of earlier EFT studies were related to the alternate use of teachers' reports and principals' reports for construct measurement. Second, items relevant to the same theoretical construct often showed low intercorrelations. Given the abstractness of many of the constructs, the researchers were not willing to assume that correlations among the indicators were diminished simply by random measurement error. Also, the substantive distinctions among many of the items -- e.g., between school policy on instruction and policy on chronic absences -- seemed to warrant separate analyses. Finally, the avoidance of linear models of analysis was justified partly in terms of the small number of schools for which data were available. And, as Salomon argues in his discussion of organizational phonomenology, the causal assumptions which characterize comparative organizational research are indeed questionable.

These departures from standard data-analysis strategies have theoretical relevance, quite apart from the rationales provided by the researchers. Specifically, the strategy used by Salomon et. al. allows for a more reasonable test and representation of the structural-contingency model than do the linear models commonly used in this research tradition.

The interactionist logic of structural-contingency theory suggests a clustering of organizational variables, i.e., a "fit" among features of context, technology, structure and success. One would not be interested in assessing independent, main effects of organizational features presumed to interact in their relationships with criteria of success or performance. The earlier use of regression models thus provided a poor test, and a poor representation, of the theoretical model. The potential for evaluating and refining the interactionist theory lies in identifying clusters of features "around" criterion variables, rather than in determining which features independently contribute to explaining their variance. In fact, the more variables intercorrelate, the less likely that standard regression analyses reveals the "true" relationships. Since elements of the equations are forced to "compete" with one another, the importance of some elements of a cluster may go undetected and more "distant" factors may appear more important (see Gordon, 1968, for simulated illustrations of these phenomena).

The cluster-analysis techniques used by Salomon, King, and Yuen thus seem preferable for comparative research on organizational structure. Their results specify organizational elements which are interactive in relation to the morale criteria of success. The substantive focus of their secondary analyses obviously is not a critical feature of the analysis strategy. Comparative organizational research within this theoretical tradition could employ any number of performance criteria (e.g., profit, efficiency, organization status, employee attrition, client satisfaction, and so on), as well as conceptions and measures of technology, environment, or other "exogenous' organizational conditions alternative to the complexity variable. Importantly, refinements of the organizational model need not proceed in terms of rational-organizational principles; alternative, nonrationalist functions may interpret structural-contingency relationships. For example, as I will

argue in the following section, the interaction patterns revealed by the secondary analyses of school data suggest that the structural-contingency model provides a reasonable representation -- but not an adequate interpretation -- of school organizational phenomena. In sum, the unorthodox analysis strategy employed by Salomon et. al. allows for tests of the notion that "effective" structural configurations vary with organizational conditions.

The Problem of Interpretation

A central finding of the secondary, EFT-data analyses supports a structural-contingency view of school organization: governance patterns associated with teacher morale differ according to features of the school's instructional program and environment. However, the rational-organization principle of the model--in particular, the assumption that organizational arrangements serve mainly to coordinate and control work prosesses--is not consistent with the data nor with prevalent conceptions of school administration.

Data consistent with the interactionist view may be summarized in terms of correlates of teacher satisfaction measures for the two school samples. The samples are distinguished according to the Complexity Index, referring to their relative use of differentiated instructional materials, level of teacher collaboration, size, and linkages to the state and community through ECE program funding. In general, the "locomplex" schools are more traditional in terms of instructional technology and lines of accountability than are the "hi-complex" schools. And while governance patterns are similar, on the average, between the two samples; central correlates of teacher work satisfaction distinguish the more and less traditional schools. Stated most generally: a "policy-centered" governance system is positively related to morale among the traditional schools, while an "observation-centered" governance system is positively associated with morale among the less traditional schools.

Some of the empirical observations which support this generalization are shown below:

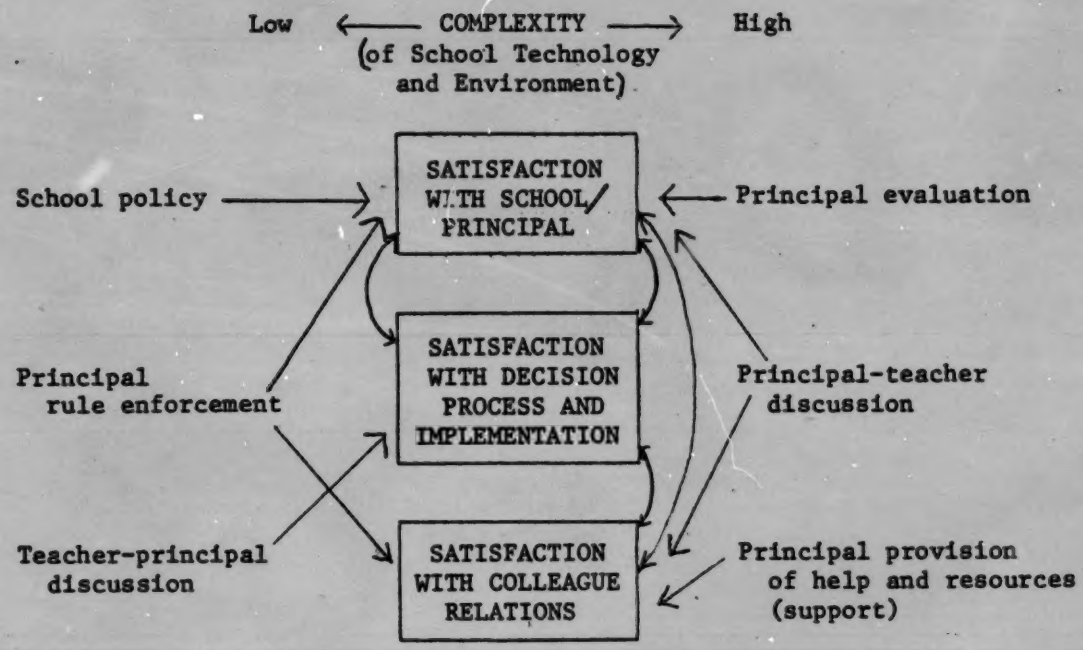


Figure 1. School governance patterns related to teacher morale.

Teacher reports of discussions with a principal appear supportive of morale under both sets of school conditions. However, morale-supportive governance structures--or the nature of the routine authority relations and, thus, context of principal-teacher discussions--appear to be quite different for the more and less traditional schools. Among the former, extensive school policies and principal enforcement of rules cluster with teacher reports of effective decision making and satisfaction with the school, principal, and colleague relations (though the last variable is related mainly to level of rule enforcement). Within the latter school sample, measures of principal involvement with the instructional program (including classroom evaluation and provision

of help and resources) cluster around teacher satisfaction with the school, principal, colleague relations and decision-making effectiveness.

The question of how to interpret the condition-structure-morale interactions is open. In order to interpret the findings, three issues need to be addressed:

a) what governance function is generally accomplished by school organizational arrangements?

b) what governance function is generally preferred by teachers? and

c) how do different structures accomplish the same function under the contrasting school conditions?

A Rational-Theory View. Structural-contingency theory offers one kind of response to the questions. Theorists in this tradition have assumed that organizational structure a) serves to coordinate and control central work processes, b) establishes employee assessment standards and mechanisms appropriate to work requirements and c) varies as technology and the environment condition the effectiveness of highly centralized control and coordination systems. The rational-theory tradition in the organizations literature also has pointed to alternative structures of centralized control: work standardization versus worker evaluation (M. Meyer, 1968) and output-evaluation versus performance evaluation (Ouchi and Maguire, 1975). A general interpretation of the school data follows from this logic: Effective coordination and control of instruction in the schools is accomplished by either a policy-centered structure, adaptive to conditions of routine instruction and a 'placid', homogenous environment, or an evaluation-centered structure adaptive to complex instructional activities and a complex, 'turbulent' environment.

However, this rational-organization interpretation of the data does not mesh with theory and research pertaining to school authority relations. A review of these challenges to a rationalist view of school organization

suggests an alternative structural-contingency perspective for interpreting the findings of Solomon and his associates.

First, basic conditions of education distinguish schools from the kinds of organizations, particularly business firms, in terms of which rational-theory models have evolved. Educational goals are abstract, numerous, and often conflicting; instructional technology is uncertain and not clearly related to alternative goals or success standards; and students represent variable, and interactive materials for educational production. Such conditions are shared by most human-services organizations and generally preclude rational control and coordination of work activities (cf. Hazenfeld, 1974). Most critically, employee productivity is difficult to gauge. Organizations thus tend to avoid individual assessment or to rely on indirect production measures (which employees may consider inappropriate to the complexity of their work and which observers may regard as "goal displacement", somehow diverting the organization from its "real" mission).

Empirical research on school organization supports the notion that ambiguous goals and technology undermine rational organization (cf. Dornbush and Scott (1975) and March's (1978) review of research findings). Routine evaluation of teaching practices and/or outcomes according to objective productivity standards is simply not regarded as feasible or desirable. Thus, the school authority system--in effect, the principal role--must function in some way alternative to providing centralized control and coordination of instruction.

Observers of school organization point to at least two central functions of administration alternative to rational management of instruction. One of

these is to assure smooth operations of the plant, the schedules, the assignment of teachers and students to classes and so on (cf. March, 1978). Another administrative function is to manage the social relationships among teachers, students, and parents (cf. Becker, 1953; Bidwell, 1965; Lortie, 1975). As early as 1932, Willard Waller pointed to this important, mediating function of school administration. Subsequent analyses have elaborated the general function and associated administrative roles--pointing to, for example, the administrative function of legitimizing teacher authority and the principal role of handling parent complaints. This literature has not explored the possibility that certain organizational structures, or routines prescribing the principal-teacher relationship in a school, may be more or less conducive to such a governance function.

Additional data support the view that school governance functions centrally to mediate relationships between students and teachers and between teachers and parents. Studies of the teaching occupation provide evidence that teachers most value a "back-up" role for school administrators (see Lortie, 1975:198). The notion of principal back-up seems enough imbedded in the occupational culture to serve as an important general standard against which teachers evaluate their working conditions. Thus, teachers' job satisfactions may serve as a reasonable indicator of the effectiveness of school governance, if specified in terms of the mediating function. Further, the notion of principal back-up is sufficiently abstract to allow for the possibility that particular structures and roles may vary independently of teachers' perceptions of back-up, i.e., the concept refers more to general outcomes than to specific means. It is quite possible, then, that a) organizational correlates of teacher morale represent structures which

support a mediating, governance function and b) supportive structures may vary according to school conditions.

The condition-structure-morale interactions observed by Salomon et. al. may be interpreted, then, according to the ways in which alternative structural arrangements accomplish the mediating function under contrasting school conditions. Of course, this interpretation only suggests propositions for subsequent comparative research.

A Modified Structural-Contingency View. Both school policies and principal involvement in classroom activities (including both observation of practices and offering of help, ideas, and resources) can be viewed as authority structures for teacher back-up. On one hand, policy provides general standards for making decisions about student treatment and for justifying practices and particular decisions to parents. Policies also embody and support shared norms governing the interactions among teachers and between teachers and students; in short, they facilitate routine internal relationships. On the other hand, evaluation and involvement in classroom activities may provide principals with information about particular students and teachers' practices useful for justifying teacher decisions and practices to parents. This involvement also may allow for direct handling of internal conflicts and provide information valuable in avoiding conflict-generating decisions, interpreting and handling reported conflicts, and managing perceptions of parties in disagreement.

There is some evidence from the Salomon et al. analyses that these patterns of governance are alternative strategies used by principals. This is not to say that they distinguish between the "locomplex" and "hicomplex" schools; as noted, mean levels on relevant variables are comparable for the two samples. However, among complex schools, teacher-report data show a

substantial negative correlation between extensiveness of various policies and frequency of principal-teacher discussions, with less strong but consistently-negative associations between policy variables and evaluation practices (data not shown in tables). This pattern suggests that, among these schools, principals tend to rely on either of the organizational structures. The pattern is not evident for the more traditional schools; discussion, though not teacher evaluation, appears to coincide with use of policy. This observation, along with the finding that both policy and discussion relate positively to teacher morale within the locomplex sample, suggest that communication about nonroutine events supplements the use of policy to manage routine interactions.

The complexity index also may be reconstrued according to the new assumption about school governance. According to standard structural-contingency theory, complex organizational technologies and environments limit the potential for centralized control of work activities. However, the complexity index used in the EFT data analyses may well capture school phenomena which limit the potential of a policy structure to manage student-teacher-parent relationships.

Components of the index suggest two dimensions of a school's social network which would distinguish the samples: the complexity of internal and external relationships and the predictability of interactions. The school size and ECE funding components of the index partly reflect the number of parties among whom a principal is expected to mediate--the sheer numbers of teachers, students, and parents implied by size and the expansion of a teacher's role set entailed in introducing ECE-funded aides and ECE monitors. The variables of teacher interdependence and non-routine instructional practices partly reflect the degree to which student-teacher

and teacher-teacher interactions and problems are predictable. Both dimensions represent constraints on the potential for simple routines and norms to handle social relations in the schools.

An account of the relevance of alternative governance structures to these conditions of school organization might assume that, in general, policy structures are preferable to observation/involvement structures. The latter demand more principal attention to students and teachers and some loss of teacher autonomy (though principal control of instruction or discipline is not implied). Thus, the association of teacher morale with principal involvement in classroom activities for the complex schools may represent a breakdown of traditional, policy-centered structures with expanded social networks and non-normative interactions.

The condition-structure-morale interactions may be based in the relative importance of information about day-to-day events for the principals' mediating role. In the more traditional schools, it may be that extensive policies on instruction and student conduct provide a structure for effective decision making and for teacher back-up through enforcing rules. It also may be that teacher-initiated discussion, supported by an "open-door" policy, is adequate for handling nonroutine, disciplinary problems (see Table 2 of the technical report for data which support this conception of the "discussion" variable). In schools with complex social networks and nonroutine interactions, a principal may need to monitor daily events in order to mediate relationships. Effective decisions and support of teachers may depend largely on information exchange, rather than on referencing school policy.

The schema below summarizes this account of the interaction patterns shown by the EFT data. It proposes that the organizational structure and

principal role, which serve the mediating function of school governance, depend upon conditions of the school's social network. Both the complexity dimension and the predictability dimension underlie the need for day-to-day information in order to determine the relevance of policy to particular problems and/or to manage problems not covered by policy. The "traditional" school sample is generally represented by the upper-left, "policy" cell of the schema, while the "complex" schools are represented by the lower-right, "observation" cell. The alternative, "consultative" structures may be viewed as supplementary or intermediate to the more extreme forms of school governance.

In summary, the modified structural-contingency model proposes that policy-based and observation/exchange-based structures are functionally equivalent forms of school governance under contrasting organizational conditions. Relevant conditions pertain to the school's network of social relations: its complexity and the extent to which interactions and inter-position problems are predictable. The notion of functional equivalence is grounded in a) data showing contrasting organizational correlates of teacher morale under different

Predictability of Interactions and Inter-position Problems	Complexity of Internal and External Relations: Low	Complexity of Internal and External Relations: High
High	POLICY Enforcing rules	CONSULTATION Establishing and applying rules for varied problems
Low	Handling exceptions to rules CONSULTATION	Using judgment in handling varied problems OBSERVATION AND EXCHANGE

Figure 2. Governance structures and roles relevant to dimensions of school social networks.

school conditions and b) an assumption that teacher morale is an indicator of effective principal back-up vis-a-vis students, parents, and other teachers.

Implications. The two views offer competing propositions for comparative research on school organization. Assuming different functions of school administration, they suggest different principal roles and "successful" principal-teacher relationships in complex schools. The actual roles supportive of teacher morale could be explored through extended observation of teacher-principal relations in these kinds of settings.

The "social mediation" view of school governance patterns does not imply that policy and principal observation serve only to protect teacher autonomy. Teachers' perceptions of the constraints and advantages represented by alternative kinds of authority systems would be an additional line of comparative research within the structural-contingency framework.

A reasonable assumption regarding the "power" implications of a principal's back-up role is that policy-based structures and supervision-based structures both represent organizational frameworks within which teacher practices and decisions are regulated, though the extent and nature of constraints may differ. Thus, the governance structures may be seen as limiting the autonomy of teachers vis-a-vis a principal in the interest of supporting their authority with constituencies and colleagues. Dan Lortie (1975) points to this paradoxial nature of school authority relations:

> The teachers' preferences for particular kinds of relationships with parents involves the principal... . The authority and standing of the principal is a potential resource for the teachers, and so teachers have a stake in its use. One can see that teachers face a dilemma in the triad of teacher-parent-principal relationships. To obtain leverage or autonomy vis-a-vis parents, the teacher may rely on the principal to initiate contact or to serve as a buffer, thus indebting himself for favors received. Where parental relationships are troublesome, the teacher may find himself in a "double bind" situation in winning autonomy; to fend off parents' intrusions or gain their assistance, he may have to accept a greater deal of control from the principal; the principal, after all, may collect his debts by expecting more compliance. I wish to underline the interlocked nature of teacher relationships; what takes place with parents influences transactions with the principal (1975: 192).

Given t[illegible]ssumption that such power processes underly the back-up function of school governance, researchers might identify power variables associated with the alternative structures. One propostion suggested by the Salomon et. al. data is that policy-based structures limit the principal-teacher exchange dynamics described by Lortie; while an exchange model may be a reasonable metaphor of authority relations within the supervision-based systems. The interdependence of principals and teachers may vary inversely with the school's ability to manage 'boundary' relations by means of policy. Constituents' legitimation of <u>both</u> teachers and the principal may depend on their "getting their acts together" -- presenting consistent accounts of school practices and particular events. Each party may well exchange their traditional, relative autonomy for valued information and back-up.

Comparative research which explores alternative process models of school governance would offer a clearer interpretation of the patterns shown by the EFT data and promise guides for principals of different kinds of schools. The next section provides a different conception of the school's social system and interpretation of the data - which suggest additional lines of comparative school research.

A Loose-Coupling Perspective on School Differences

Proposing a loose-coupling account of the comparative data on local, U. S. school organization is a challenge. One problem is that the theoretical perspective is not represented by a single analytic framework or line of research. "Loose-coupling theory" refers, rather, to an emerging paradigm in the organizations literature -- being shaped by a synthesis of behavioral-science models of human systems. In effect, one must choose among various theoretical lenses, angles and focuses in order to take a loose-coupling perspective on organizational phenomena.

Any of these views disillusions the functionalist logic of rational-organization theory (including the modified structural-contingency model offered in the preceeding section). Each provides an alternative logic that illuminates organizational phenomena which are routinely ignored and that pertains especially to a "loosely-coupled" type of organization, to which standard theories are ill-suited. The views are of systems coping with uncertainty about how their actions pertain to various goals they have for themselves and how events pertain to various prior acts. Organizations such as schools and universities, bureaucracies, families, and the human cognitive system are characterized by such a state of ambiguity. The paradigm challenges the common assumption (made by the systems and observers of the system) that a "true" empirical connection between the goals, activities, and outcomes relevant to these systems can be determined. Of course, this is a serious problem in attempting to provide a loose-coupling "explanation" of the data. The paradigm challenges the notion that there is a reason for observed relationships between activities and "outcomes" in organizations like U. S. public schools. Thus, any interpertation of the observed organizational

patterns for the two school samples risks falling back into the rational-organization paradigm.

A third problem with analyzing comparative school data within the loose-coupling tradition is that the predominant, institutional view of educational organization portrays schools as alike in all important respects. One sees local U. S. schools as copies of the national model of educational organization and any variation among school's work arrangements appear insignificant. By implication, comparative research on school structure (authority relations, for example) or informal processes (patterns of communication, for example) is not suggested.

Nevertheless, loose-coupling theory should have something important to say about the data at hand -- assuming that teacher morale is a "real" and variable phenomenon and that the organizational correlates of morale capture something meaningful about the work of teachers. The new stance in the organizational-theory literature addresses educational organization more explicitly than has any other theoretical perspective. And intensive field studies of public school administrators have provided insights, and useful guidelines regarding problems of "governing" such an ambiguous enterprise (see March, 1978). Thus, in spite of institutional theorists' stance about the value of comparative school research, the contrasting "governance" patterns shown to be supportive of morale in the two school samples should be amenable to loose-coupling analysis.

The comparative data presented by Salomon et. al. are more consistent with the loose-coupling paradigm than is generally the case with large-scale analyses of organizational "structure". First, affect variables have a place in the thinking about loosely-coupled organizations. The paradigm assumes that such systems survive on the basis of <u>beliefs</u> in the value of their work.

Further, the secondary analyses examined relationships among teachers' and principal's reports about fairly specific organizational activities. This strategy revealed organizational phenomena associated and dissociated with teacher morale and principal-teacher dissensus about particular practices. The departures from standard measurement strategies and tests of rational-organization propositions bring the data more in line with the logic of loose-coupling theory. The analyses were unconstrained by causal assumptions and hypotheses, despite the exogenous status of variables distinguishing the school samples and the tendency of the researchers' discussion to regard teacher morale and student achievement as dependent phenomena. Thus, the data provide an unusual opportunity to observe the kind of "distances" and clusterings among organizational reports that are important in loose-coupling theory.

The theoretical perspective offered in this commentary derives from two lines of loose-coupling theory. The symbolic-interaction model of social systems offers conceptions of internal school relations and of teacher morale in the two school samples. The institutional model of school organization suggests the kinds of school differences which would interpret the contrasting social systems. The following two sections describe the loose-coupling view of organizational structure and conceptions of social processes in schools and in loosely-coupled organizations. The next section offers propositions which relate school organization to social-system dynamics and teacher morale and reviews the comparative school data in terms of these arguments. The final section suggests strategies and variables for applied loose-coupling research.

This part of the commentary is intended to provide an additional perspective on the data at hand and to suggest a line of comparative research on schools within the institutional framework of loose-coupling theory. Clearly, neither the breadth of loose-coupling theory nor the depth of either theoretical model is captured by this effort.

Conceptions of Structure: Coupling Patterns and Institutional Organization

Loose-coupling theory proposes that organizational elements (goals, positions, routines, events, outcomes, etc.) may be more or less "coupled" with one another. An organizational element is conceived as a system of variables, e.g., the interrelated activities or roles designated as a position; the actors and circumstances which define an event; the factors which combine to produce an organizational outcome or product. The notion of coupling between two elements refers generally to "the activity of the variables which the two systems share" (Weick, 1976:3, see also Glassman, 1973). For example, the teacher and principal positions in a school organization are more or less tightly coupled to the extent that their central work activities are interdependent. By implication, the "official" arrangements and accounts of operating procedures do not imply tight coupling of organizational elements.

Karl Weick (1976) provided an early formulation of the loose-coupling perspective, which can be stated generally in terms of a few central propositions:

1. Organizations display points of relatively tight and loose coupling among internal elements;
2. A logic supports the patterning of couplings with a system, and the points of loose coupling may be as much a part of the organizational "glue" as are the tightly-coupled elements;
3. Systems display more or less tight couplings among organizational elements according to, at least, the potential for rationalized operations and the extent to which they are structured according to traditional form and meanings, or institutionalized "rules"; and

4. The nature and logics of coupling patterns are, alternatively, control over organizational activities (how well the work is done) and control over certification (who does the work).

In sum, Weick and others have suggested that there may be tight and loose couplings of organizational features, tightly or loosely-coupled systems (referring to coupling patterns shown by elements of "rational" organization e.g., elements for coordination and control of activities), and tight and loose couplings with respect to institutional elements, e.g., credentials relevant to positions, understandings about the structure and activities, categories for evaluating products.

Within this framework, U.S. schools have been characterized as loosely-coupled systems with organizational elements tightly coupled to institutionalized rules. (Meyer, 1977, 1978; Meyer and Rowan, 1977, 1978). In other words, the patterns reveal points of tight coupling among the institutionalized categories of students, teachers, subject matter, credentials, and so on. Spaces of loose-coupling involve features of rational organization -- most basically, educational goals, instructional practices, and student outcomes. (cf. Weick, 1976; Meyer and Rowan, 1977).

The institutional model of school organization is summarized crudely by the diagram below, where critical points of tight coupling are represented by arrows, and critical spaces of loose coupling are represented by "L.C." lines.

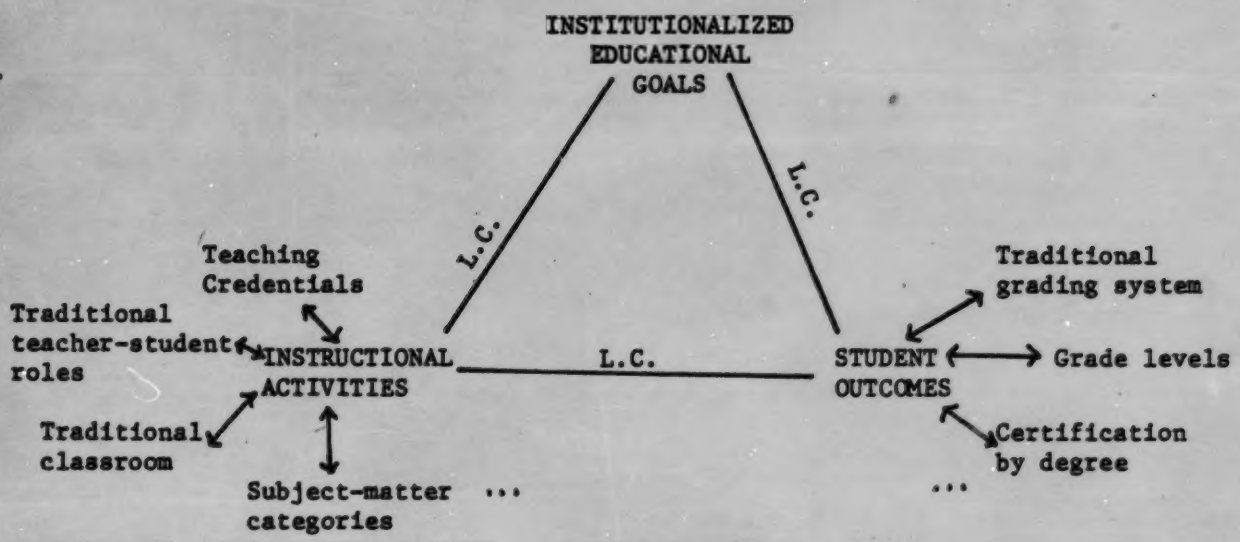


Figure 3. The Institutional View of School Organization

The certification logic to which Weick (1976) referred is represented by the tight coupling of credentials and degrees to teacher activities and student outcomes, respectively. John Meyer (c.f. 1978) has elaborated the basic loose-coupling model to include additional elements of school organization which represent institutionalized understandings -- such as traditional classroom structures, student-teacher roles, subjects, grade levels. A central proposition of the model is that: schools maintain critical points of loose coupling (among multiple and ambiguous goals, instructional activities of uncertain consequences, and indeterminant student outcomes) by tight coupling of instructional activities and student outcomes to institutionalized, or traditional, elements of educational organization and to emergent institutional understandings.

The institutional model has regarded standard organizational variables -- relevant to authority relations, use of policy and rules, communication processes, and so on -- as incidental to the central coupling patterns of public school organization. The argument assumes that such organizational elements are loosely coupled and relatively invariant across schools and b) essentially myths

of rational organization (Meyer and Rowan, 1977). Presumably, the myths represented by structural arrangements contribute only marginally, compared to the institutional structure, to public trust in a school's educational program. According to this model, then, the theoretical and practical value of comparative research on the organizational properties of U.S. schools is quite limited.

Conceptions of Process: The Construction of Social Reality, and Diffusion of Institutional Elements

The loose-coupling literature has been as concerned with how such systems "work" as with what they look like as structures or forms of organization. For example, it has asked "How are coupling patterns reflected in, and maintained by, communication among organizational members?" "How is the logic of certification, as opposed to inspection, sustained in a rationalist organizational society?", and so on. In addressing such questions of process, theorists have adopted various behavioral-science models and metaphors in lieu of standard, rational-theory conceptions of organizational processes.

Social Relations. Karl Weick's (1976) work on loosely-coupled systems considered the role of coupling patterns in establishing modes of interaction within organizations. He claimed that members ..."will see and talk clearly about only those regions that are tightly coupled ..." (p. 12). Given the view that educational organizations are coupled, and survive, on the basis of a certification logic, he suggests that: "... members of educational organizations should be most explicit and certain when they are discussing issues related to certification for definition and regulation of teachers, pupils, topics, space and resources" (p. 12). Further, "... those people who primarily manage the instructional business (a loosely-coupled subsystem of the schools) will be most vague in describing what they do ..." (p. 12). By implication, one should be able to determine coupling patterns by the relative vagueness with which members describe what goes on in the organization.

Weick further suggests a proposition about the effects of coupling patterns on internal relationships. Namely: members are preoccupied with "linguistic work and the social construction of reality" (p. 12) relevant to loosely-coupled portions of their organization. He argues that the ambiguity of loosely-coupled structures does not allow members to make sense of them. Thus, they seek order in their work environment and spend considerable effort in constructing or negotiating an acceptable social reality, in protecting one another from scrutiny ("face work"), and in espousing various myths regarding the significance of their work (see also Mitroff and Kitmann's (1975) discussion of these processes).

Weick and others thus offer a symbolic-interactionist perspective on internal processes in loosely-coupled organizations (cf. Goffman, 1959; Lyman, 1971). This theoretical view centrally assumes that social reality is not "given". Actors define their common situations and relationships with reference to institutionalized understandings (roles, norms, customs, ceremonies, etc.) and/or through negotiating an understanding. The reality-construction processes imply different levels of social interation. The former strategy involves applying information based on prior, socialization experiences; the latter depends on information exchange and processing among individuals. The contrast is analogous to the difference between playing a game and inventing a game.

Loose-coupling theory suggests that both reality-construction processes go on in the schools and in other organizations where rational organization does not define a social order. On the one hand teachers, principals, and students presumably manage the amgiguities of education by acting out roles, observing custom, and referring to traditional myths about what they are doing. On the other hand, they presumably make up stories about events and even create myths to cover routines which depart from custom. As noted above,

the former processes entail relatively routine social interactions-based on the shared understandings of participants. The notion that such understandings are maintained by "face work" or inattention to actual role performance suggests that more extensive and personal interaction could actually threaten the institutionalized understandings. Indeed, Meyer and Rowan (1977:) argue that teachers' isolation in individual classrooms and principals' nonscrutiny of classroom activities support trust among school members. In contrast, reality-negotiation processes entail face-to-face interaction among individuals. A dynamic network of social relations among teachers and principals presumably would support shared understandings and trust. This image of internal school relations is quite different from that projected by the notion of face work. Certainly, the two kinds of reality-construction processes could coexist in a given school -- with the face-work principle applied to relationships or domains of activity "covered by" shared myths and understandings, and with negotiation processes pertaining to the socially-ambiguous aspects of school life. However, the two processes suggest rather different modi operandi for daily activities and contrasting images of the kind of school social systems which generally support understanding and trust among educators.

The symbollic-interactionist perspective suggests a general proposition about the modal process likely to support understanding and trust among school members:

Prop. 1: The amount of face work, and avoidance of interaction, relative to the amount of interaction among participants about the meaning of their work, depends upon the degree to which institutionalized myths interpret central organizational activities.

The argument assumes that a) the ratio of ambiguous elements to relevant organizational myths varies across organizational contexts; b) reliance on one or the other process of reality construction varies across contexts; and, further c) the level of understanding and trust among members varies across contexts. Clearly, these assumptions are empirical questions relevant to any population of organizations. And the proposition's usefulness for research on schools -- and, ultimately, its applied value -- depends upon the existence of such variation among school contexts.

Observers of the schools these days would be pessimistic about the last assumption (c): conditions of decline and public demands for educational reform and accountability may have so severely and generally depressed morale and trust among educators that schools show little local variation in this respect (see Kirst, 1978, regarding the state of public education in California).

As already noted, John Meyer's work offers reason for pessimism about the first assumption, that schools can and do vary in the degree to which established myths manage the ambiguity of educational activities. Importantly, institutional theory points to the nature of shared "definitions of the situations" in school organizations -- the social reality which allows teachers, principals, and students to act out roles and follow routines, without forever worrying about the meaning of their common enterprise. (See Meyer (1978) for a systematic institutional analysis of school organization). In effect, the model offers an account of why we should <u>not</u> expect to find educators actively negotiating social constructions of reality or much variation among schools in this regard.

However, in describing the process through which educational myths are transmitted and established, the institutional model suggests variables which might affect the degree to which understandings are shared within a school.

Institutional Diffusion Processes. The institutional model describes the dynamics of, and changes in, social constructions of educational realities as a cultural-diffusion process. The metaphor applies more generally to those aspects of shared social reality which are not negotiated through immediate social interaction. Thus, important understandings about schooling, school organizations, and the roles of teachers, principals, and students are regarded as centrally independent of particular educational programs and interactions within the schools. As noted, Meyer and Rowan (1977) suggest that a school's social relations are adequately structured by these institutionalized understandings and that shared myths are sustained by face work, or inattention to actual role performances. Social relations are portrayed as largely routine, concerning the movement and certification of students, allocation of school resources, etc.; with teacher autonomy sustained by the myths of professionalism and vice-versa. Schools are seen as alike in these important respects.

The diffusion model suggests two sources of variation in institutional understandings over time and across schools. First, diffusion processes proliferate institutional elements (forms, ideas and rhetoric, definitions, etc.). A system may adopt elements from other systems (as the educational authority system may have been adopted during the late 1800's from the economic or political institutions) and generate hybrid elements (as an innovative form of special education may combine the institutionalized notion of 'special program' with a new conception of student differences). Second, diffusion processes are not "even". Diffusion lines with a system carry innovations at different rates to different subsystems and, perhaps, carry different innovations to different parts of the system.

The diffusion metaphor thus suggests that schools (subsystems) may vary in terms of a) the number and variety of their institutional elements or understandings; b) the degree to which their organizational elements are institutionalized, or established throughout the educational system, and c) the extent to which various elements are compatible, given that they represent diverse -- and possibly conflicting -- social understandings about education.

As Meyer (1978) has suggested, schools are likely to evidence varying degrees of consensus among teachers, principals and various constituencies about the "meaning" of their educational program. The level of consensus should vary, generally, according to the school's adoption of nontraditional, innovative elements of educational organization. While school innovations are responsive to diverse and emergent institutional forms and rhetorics, they multiply the social realities of a local system. Further, the diffusion process may transmit new elements with highly-ambiguous, emergent myths to support them.

A central issue raised by this dynamic perspective on educational organization is: to what extent does the incorporation of new institutional elements challenge traditional myths, threaten consensual social understanding and generate ambiguity about the meaning of a school's educational program?

Meyer has suggested that such disruption is generally avoided by increased decoupling of organizational elements. In other words, the proliferation of institutional elements is translated organizationally into increasingly differentiated and uncoordinated structures, the parts of which reflect and contain alternative understandings. Thus, increased ambiguity is avoided by compartmentalized innovations, and rhetorics, and actors who share the specialized understandings. For example, creating a special program for gifted students in a high school or an affirmative action office in a university

may simply incorporate new institutional rhetoric without undermining basic, shared understandings about the educational enterprise or about established organizational roles and routines. Shared understandings about, and the survival of, such new components may depend largely upon their institutional legitimacy (mainly, legal certification of the unit and personnel). In any case, their survival is not critical to the organization's institutional integrity.

This perspective implies that uneven diffusion of new institutional elements among schools would not generate significant differences in their core institutional organization. Further, basic understandings about education and the school should not vary much across contexts nor, by implication, should the need to construct reality through social processes.

This argument seems reasonable, given two conditions. First, the "core" organizational structure would have to signify established institutional realities and provide the focus of shared understandings among members. An educational innovation which alters institutionalized arrangements, i.e., which cannot be compartmentalized, might generate ambiguity in the system. For example, the dissolution of disciplinary departments in a university, in favor of an alternative organization of faculty and students, would certainly threaten existing understandings about the educational enterprise. Similarly, such innovations as team teaching and open classrooms in public education disrupt the core institutional organization of a school and may generate uncertainty and dissensus about the efficacy of a schools' educational programs. Such innovations are quite different from the adoption of special programs.

Second, the innovation should not threaten the certification logic which interprets educational practices. In other words, if everyone essentially agrees that students are learning something because teachers are certified to teach them something; this understanding might be challenged by innovations

which bring into the schools significant numbers of noncertified "teachers". School introduction of classroom teaching aids and parent volunteers is a case in point. While teachers may gain organizational status with such innovation, their institutional status may be threatened as the certification logic which interprets their role and supports their authority is undermined. Attention is implicitly directed to the technology of instruction; and the question of how teaching is conducted, rather than who teaches, would certainly create new ambiguities about the work. Similar arguments could be made with respect to innovation in the medical system and in the family institution. In both cases, "practice" has departed from certification logic. It appears that social understandings about the meaning of the enterprises are being questioned as "deinstitutionalized" forms become more prevalent in each context.

In sum, I have suggested that diffusion of institutional elements among the schools is not likely to disrupt social constructions of reality provided that a) the innovation can be treated structurally, i.e., added on to the existing educational program; and the traditional categories (the core, institutionalized structure) are maintained; and b) the innovation does not "decouple" instructional activities from certified personnel categories. Most educational innovations satisfy these conditions, as Meyer has observed. Presumably then, shared educational understandings among teachers, principals, students and parents have remained in tact even among the most "innovative" schools.

However, these conditions represent variables which may distinguish among innovations, as illustrated by the teaching aid/parent volunteer innovation as compared to, say, the bilingual-teacher innovation. I am suggesting that these variables refer to an innovation's capacity to disrupt

the institutional organization of a school and, indirectly, to disillusion social understandings within the school. Given these assumptions and the notion of uneven diffusion of innovations within a system, it is possible to argue that schools vary in their ability to rely on institutional myths for shared understanding about ambiguous educational activities. A general proposition would be:

> Prop. 2: The degree to which institutionalized myths interpret central organizational activities is a function of the correspondence of a) organizational structure to institutionalized categories of structure and b) core activities to institutionalized roles and categories of certification.

This proposition extends the institutional model of educational organization to allow for school differences in organizational coupling patterns. The nature of school organizational processes which might support shared social understandings is suggested by Propositon 1. A third proposition integrates the two perspectives:

> Prop. 3: The amount of face work, and avoidance of interaction, relative to the amount of interaction among participants about the meaning of their work (Prop. 1), depends upon the correspondence of a) the organization's structure to an institutionalized form of organization and b) core activities with an institutionalized certification system (Prop. 2).

This proposition should apply generally to loosely-coupled organizations — where the integrity of an inherently-ambiguous enterprise (and of participants in the enterprise) depends upon shared understandings, or myths, about the "effective" organization of work. The proposition integrates elements of loose-

coupling theory: a) symbolic-interactionist notions of both institutionalized social realities and social negotiations of reality b) the conception of schools as centrally organized according to the logic of certification and institutionalized educational myths, c) the argument that some institutional changes challenge established myths, and d) the cultural-diffusion metaphor of educational change and school innovation.

It should be clear that the general argument does not significantly depart from stated views of loose-coupling theorists. However, it questions the inference that local public schools more or less equally represent institutionalized organization of education. It also challenges the corresponding notion that schools' members are equally able to derive meanings for their work from institutionalized myths and to support social understandings through face work.

A Loose-Coupling Interpretation of the Data

The question is now whether or not this perspective on school organizational differences can provide a reasonable account of the data at hand. The question boils down to three basic issues:

a) Do the teacher satisfaction measures provide a reasonable indicator of trust and shared understandings within a school?

b) Do the conditions distinguishing the school samples (the "Complexity" index) represent institutional-organization variables?

c) Do the organizational phenomena correlated with teacher morale for the two school samples represent processes supportive of social constructions of reality.

An affirmative response to each of these questions seems reasonable. First, it is quite plausible that teachers' satisfaction with their school, principal and colleague relations depends to a significant degree upon the atmosphere of trust in the school and, by implication, the confidence in individual teachers. Such trust and confidence, as the theory suggests, assumes shared understandings about the nature and importance of work roles and the competence of individuals to perform the roles. The data are not entirely consistent with this interpretation, however: teacher reports (school averages) of their own effectiveness ("efficacy") are not as highly correlated with teacher satisfaction measures as one would expect. According to loose-coupling logic, both teacher self-efficacy and satisfaction with the work environment should be supported by social trust and shared educational understandings in the school. One can only conjecture as to which is the better indicator of these loose-coupling variables.

Teachers' reported efficacy might be strongly influenced by "objective' student outcomes. Correlational data for the locomplex schools are consistent with this view. On the other hand, the level of teacher satisfaction with the school, principal and colleagues could be influenced by variation in occupational commitment or, again, by student achievement. Data for the locomplex schools are inconsistent with this view: satisfaction measures are unrelated to achievement scores and occupational satisfaction varies independently of the school satisfaction measures. The data for hicomplex schools provide no empirical standards for considering the measures' relative theoretical value: neither efficacy nor satisfaction is highly related to student achievement; and the satisfaction measures are highly intercorrelated. On grounds of face validity and lack of evidence for alternative claims, the teacher satisfaction measures seem to provide a reasonable indicator of loose-coupling concepts.

Consider now the four dimensions of the school complexity index: size, ECE funding, teacher interdependence, and use of differentiated instructional materials. At least three of the items seem pertinent to the institutional organization of a school. The relevance of size is ambiguous. The variable probably indicates the elaborateness of a school's institutional structure (representing its capacity to add on nontraditional programs), but this would not imply alteration of the core categories. More clear linkages to the theoretical notion can be specified for each of the other items. ECE program adoption imposed a rhetoric challenging (if not actual changing) the traditional student-teacher roles and almost routinely introduced noncredentialled teaching aids into classroom instruction. The use of differentiated materials represents a departure from institutionalized roles and curricula; and teacher interdependence deviates from the traditional model of classroom instruction. In sum, the complexity index provides some measure of a school's departure from traditional educational organization and, thus, institutionalized myths for social constructions of reality. Schools in the "hicomplex" sample may be regarded as relatively "de-institutionalized" organizations. Presumably, the teachers, principals, and students of these schools would be less able to provide an account of what they are doing by pointing to widely-accepted teaching formats, roles, and personnel.

Finally, consider central findings of the secondary analyses. The data pertain mainly to principal roles associated with teacher morale. Thus, a loose-coupling interpretation of the data must assume that the principal is a central figure in a school's social system. In other words, the principal role must be seen as reflecting, or influencing, the process by which shared understandings are maintained or generated within the school. To the extent that this view is correct, the data are consistent with the loose-coupling arguments developed earlier.

In schools with relatively institutionalized structures, teacher morale is positively related to a principal's enforcing of school rules. In constrast, indicators of a principal's involvement in the traditional domain are unrelated or negatively related to morale measures. The non-intervention role is consistent with the loose-coupling notion of "face work", or inattention to the role performances of actors. Further, if school policies can be regarded as organizational translations of institutional understandings, the principal's rule-enforcement role may actively support institutionalized understandings within the school social system. Policy may also embody local understandings about practices -- discipline, for example -- not governed by institutional myths. Again, rule enforcement would reinforce social constructions of reality -- in this case based on school tradition. In schools with relatively "deinstitutionalized" organization, teacher morale is positively related to a principal's involvement in the instructional program. This observation conflicts with the argument of institutional theorists that trust in the schools depends upon nonscrutiny of educational activities by administrators. However, this administrative role may reflect the process of reality construction in schools with instructional programs which lack a clear institutional logic (as per Prop. 3).

Social understandings about such school programs may depend importantly upon negotiated organizational myths. A principal's central role in generating widely-supported myths may derive from his or location in the school's social network. The position provides access to all parts of the internal social system and is a school's official link with the public. In effect, the principal is in a position to facilitate internal consensus about the meaning of noninstitutionalized practices and to merge internal and external understandings about the school's program.

At least two metaphors might describe the way in which a principal's immersion in the internal social system of a school generates shared understandings among its members. One would portray the principal as distiller of myths. The metaphor assumes that teachers develop their own conceptions and "public" accounts of the efficacy of institutionally-ambiguous practices. The principal's role, then, would be to precipitate from these individual accounts a set of organizational myths which represent the core meaning system. Another metaphor might portray the principal as diffuser of myths. It assumes that teachers are in search of social definitions of the situation. The principal, then, would be the source of organizational myths diffused mainly along communication lines established by teacher-principal interaction. The metaphors suggest mechanisms by which principal involvement in instructional activities might facilitate the shared constructions of reality within deinstitutionalized schools.

Broader, public understandings about the school's program are probably dependent upon a) a principal's translation of activities in terms of institutionalized understandings and b) agreement between the accounts provided by teachers and a principal. A "participant-observer" role in the school social system would help a principal in each respect: by yielding both knowledge of daily activities of teachers and students and a sense of teachers' shared perceptions and interpretations of school innovations. Principals' successful merging of internal and external understandings may be a critical basis of trust in, and within, these schools; since the core institutional myth of teacher professionalism may very well be at stake.

A loose-coupling interpretation of findings for the two school samples is offered in the schema below. The upper left cell (I) represents school with traditional, or highly institutionalized, organization. The lower right cell (IV) refers to the most "deinstitutionalized" school organization; although, presumably such schools also display elements of the core institutional structure (e.g., student grades and/or degrees, traditional subject categories, some credentialled staff, some aspects of student and teacher roles, etc.). The school samples of the Salomon et. al. analyses were distributed across all four cells; so the distinct patterns shown by the data may be weak reflections of organizational conditions supportive of teacher morale within the two "types" of schools.

The notion of "deinstitutionalized" school organization is refined according to two institutional-organization variables which are captured by the complexity index. A school innovation could very well signify a shift away from institutionalized educational process without any change in the school's institutional structure, or vice-versa. The latter refers to the core educational categories of curricula, grade levels, degrees, teachers, students, etc.; or the educational certification system. The process variable refers to institutionalized student and teacher roles and routines, i.e., traditional classroom social relations and instructional practices.

The schema proposes, for each possible school "type", the general nature of internal school organization likely to support shared understandings and trust. Three dimensions of internal organization are considered: a) source of myths about the efficacy of instructional practices b) the character and function of the school social system, and c) the implied couplings of organizational elements.

INSTITUTIONALIZED STRUCTURE (Traditional Categories of Personnel, Subject Matter, Students, ets.; Certification Logic)	INSTITUTIONALIZED PROCESS (Traditional Student and Teacher Roles and Routines)	
	High	Low
High	I Institutionalized Myths of Structure and Process Face work characterizes interaction among participants (avoidance, discretion, and overlooking) Tight coupling of policy and principal role	II Institutionalized Myths of Structure As in I (Informal relationships among teachers generate myths regarding the efficacy of instructional practices)
Low	III Institutionalized Myths of Process As in I (Principal consults teachers to generate organizational myths and policy which translate traditional structure in terms of practices)	IV Institutionalized and Organizational Myths of Structure and Process Informal Interaction Characterizes social relations; negotiation of myths among principal and teacher Tight coupling of principal and teacher roles

Figure 4. Organizational features of loosely-coupled systems with varying degrees of institutional organization

Considering the two dimensions of institutional organization, one might argue that schools with highly institutionalized structure or process could rely on the corresponding institutional myths for shared understandings about the program. In effect, trust and morale in these schools may be supported by organizational arrangements similar to those suggested for schools with highly institutionalized programs: social relations characterized by face work (implying loose coupling of the principal and teacher roles) and tight coupling of policy and the principal role.

Innovations of process generate among teachers some feelings of ambiguity about the efficacy of their instructional activities. The inherent ambiguities of the work normally would be handled by institutionalized myths that translate (traditional) instructional routines and practices in terms of educational goals. Such myths would include common understandings that: matching a group of students with a teacher assures continuity of instruction and learning; daily scheduling of subjects assures that students acquire a wide range of skills and knowledge; grading of assignments and tests assures that students learn important material; use of classroom presentations assures that students develop poise; and so on. Departures from such tried-and-true practices may not generate a great deal of uncertainty about the school's program, however. This is because certified teachers are known to be competent (the central, "professionalism" myth of structure). Thus, teachers' trust in themselves and in each other may derive largely from the face work which signifies this "logic of confidence" (again, see Meyer and Rowan, 1977). Teachers still may feel more confident about innovative activities if they reach some kind of agreement among themselves about why the new practices are effective (proposed in Figure 4, Cell II). But a principal's involvement in this social process might call into question the professionalism myth, both symbolically and as it may reveal unequal "knowledge" (since teachers are likely to vary in exposure to new institutional myths and in aptitude for creating accounts).

Similarly, schools in which traditional teaching routines are maintained, but whose program departs from institutionalized structure, may be able to rely on myths regarding the efficacy of traditional practice. For example, if uncertified personnel perform routine instructional tasks (e.g., teaching from a text or grading tests), the assumption of efficacy

can be referenced in terms of what is being done (process) rather than who is doing the teaching (structure). Or, if grade levels were eliminated; but groups were still assigned to a single teacher who followed standard instructional routines and grading practices, the efficacy of the program would be understood accoring to myths of process. Such cases, as well as those where a subject category were eliminated from the school curriculum would probably require additional rules connecting the routines to "meaningful" outputs (degrees and subject knowledge in these instances). This suggests that organizational myths and policies are needed to establish the meaning of deinstitutionalized structure: by translating traditional structure in terms of practices (as proposed in Figure 4, Cell III). In other words, organizational myths would define the boundaries of activities and events which represent institutionalized categories -- thus reestablishing the certification logic of a school's program. Such rules would connect elements of traditional instruction to "disenfranchised" elements of structure (e.g., routine practices to noncertified staff; classroom grades to grade-level interpretations and to degrees; instructional activities to the 'missing' subject categories, etc.). This kind of innovation is likely to generate little ambiguity among teachers about the meaning of instructional activities (the work). However, parents and students might experience considerable ambiguity about an educational program that was not clearly articulated with institutionalized categories of educational output. A principal presumably could develop this logic with minimal teacher consultation. Most likely, a move toward de-institutionalized structure would accompany instructional (process) innovations as well (e.g., the use of aids in individualized instruction); though budgetary decisions to cut basic subject components and competency-based programs approximate the Cell III type.

Finally, school programs which entail departure from both traditional institutional structure and traditional instructional practices cannot rely entirely on either set of myths for understanding about the instructional program. It is conceivable that teachers alone might generate meanings for innovative activities and a principal might create policy statements relating school practices to institutional structure. However, it is reasonable, and consistent with the data at hand, that such accounting depends on cooperative efforts of a principal and teachers. As proposed in Figure 4, the challenges to both kinds of institutionalized myths interact to require tight coupling of the principal and teacher roles ("roles" referring to informal rather than formal relations) for generating the meaning and authority of the instructional program.

A partial rationale for this proposition was suggested earlier by the notions of how a principal might catalyze shared understandings about a school's program. The crux of the argument is that a principal is not able to generate reasonable public accounts of a nontraditional program without intimate knowledge of daily student-teacher activities. The need for an "official" account derives from public distrust of a deinstitutionalized school structure, particularly if it challenges the certification logic of teacher competence.

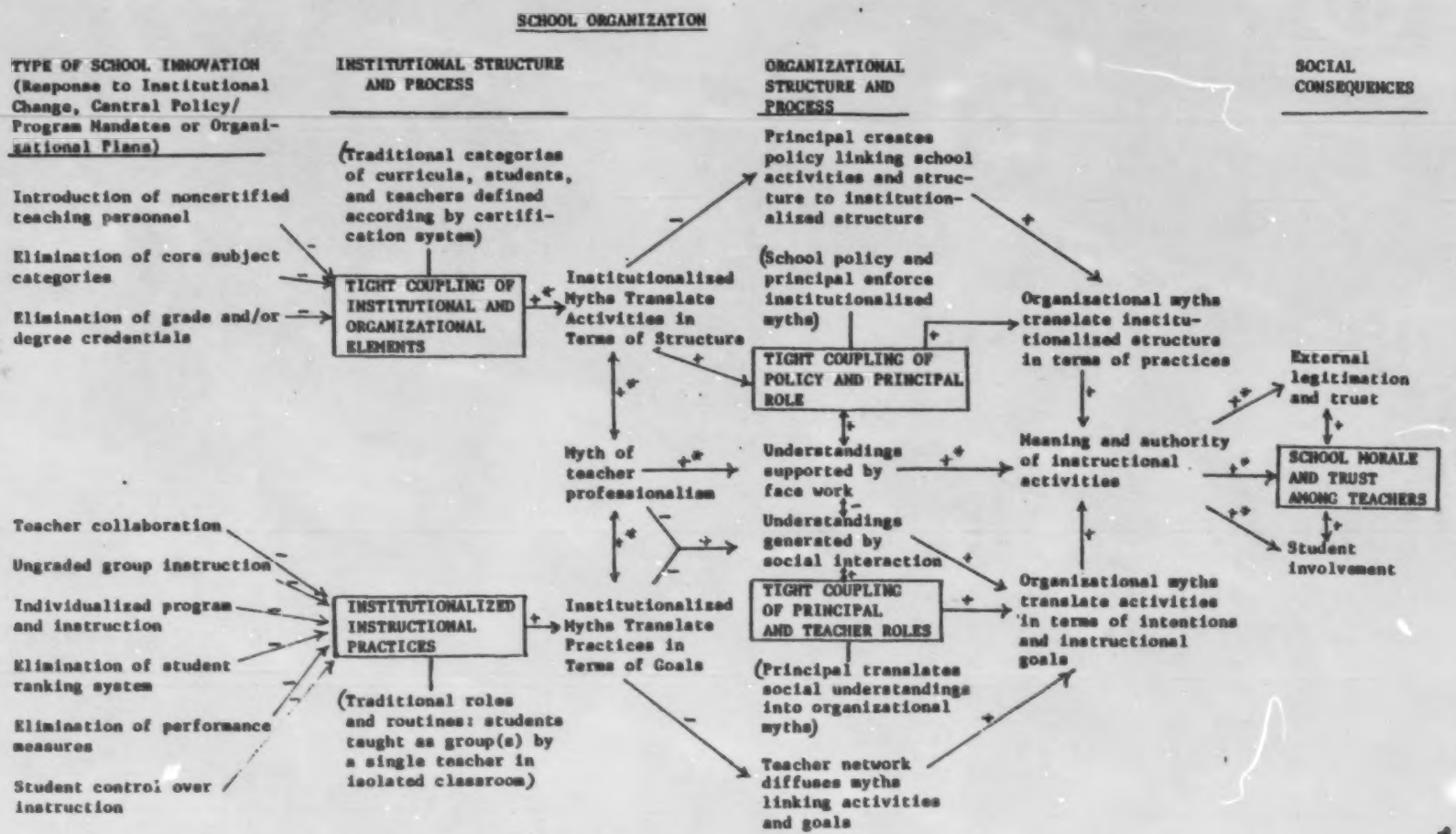
In sum, a principal's accounts regarding "lost" elements of the certification system can be provided without such intimate knowledge of instruction when practices are routine and understood by everyone to be successful (as per Cell III). And teachers' sense of the meaning and efficacy of instructional innovations can be constructed through their own social network; official translation of the account(s) is unnecessary when the integrity of the school's

program and of the teachers is protected by the logic of certification (as per Cell II). However, when a school's structure and instructional activities defy common understandings about education, principals and teachers may need to collaborate in generating the social accounts of the program (as per Cell IV). The collaboration would institutionalize school myths, and assure consistent stories, about innovative instructional activities, i.e., common definitions of activities in terms of broad educational goals. Further, confidence in the program may revitalize the myth of teacher professionalism.

The argument is summarized by Figure 5. The diagram highlights and defines central coupling patterns of formal (structure) and informal (process) elements of institutional and local school organization; and proposes how they relate to teacher morale. The model also illustrates the kinds of school innovations which might challenge myths of structure and myths of process. Central propositions of the institutional model of school organization are indicated with asterisks. Remaining arrows of the argument are consistent with the school differences observed by Salomon et. al. and suggest propositions for comparative school research.

Additional Variables: The Institutional Field and Principle of Accountability

The loose-coupling account of the data assumes a "static" institutional framework within which school organizations vary. In other words, school programs are characterized by the degree to which they vary from institutionalized myths of structure and process -- implying common standards. Yet it is quite likely that local institutional understandings are not the same for all schools: the field, as well as the form is variable. The diffusion process is likely to carry different understandings, as


SCHOOL ORGANIZATION
TYPE OF SCHOOL INNOVATION (Response to Institutional Change, Central Policy/ Program Mandates or Organizational Plans)
INSTITUTIONAL STRUCTURE AND PROCESS
ORGANIZATIONAL STRUCTURE AND PROCESS
SOCIAL CONSEQUENCES
Introduction of noncertified teaching personnel
Elimination of core subject categories
Elimination of grade and/or degree credentials
(Traditional categories of curricula, students, and teachers defined according by certification system)
TIGHT COUPLING OF INSTITUTIONAL AND ORGANIZATIONAL ELEMENTS
Institutionalized Myths Translate Activities in Terms of Structure
Principal creates policy linking school activities and structure to institutionalized structure
(School policy and principal enforce institutionalized myths)
TIGHT COUPLING OF POLICY AND PRINCIPAL ROLE
Organizational myths translate institutionalized structure in terms of practices
External legitimation and trust
Myth of teacher professionalism
Understandings supported by face work
Meaning and authority of instructional activities
SCHOOL MORALE AND TRUST AMONG TEACHERS
Student involvement
Teacher collaboration
Ungraded group instruction
Individualized program and instruction
Elimination of student ranking system
Elimination of performance measures
Student control over instruction
INSTITUTIONALIZED INSTRUCTIONAL PRACTICES
(Traditional roles and routines: students taught as group(s) by a single teacher in isolated classroom)
Institutionalized Myths Translate Practices in Terms of Goals
Understandings generated by social interaction
TIGHT COUPLING OF PRINCIPAL AND TEACHER ROLES
Organizational myths translate activities in terms of intentions and instructional goals
(Principal translates social understandings into organizational myths)
Teacher network diffuses myths linking activities and goals

*Indicates central argument of the Institutional Model of School Organization

Figure 5. A Loose-Coupling Model of School Organization and Morale

well as different forms, to different parts of the public educational system. As noted, the proliferation of understandings may allow schools to "match" new institutional myths with new forms. Such school adaptation would generally increase the loose coupling of formal elements of school organization, as program components are established (with their own personnel, and myths) and as teachers innovate with instructional forms (understood by professional reference groups and myths). However, institutional principles of school organization may also change -- and at different rates or in different ways throughout the system.

The institutional logic of certification can be regarded as the medium through which school organization (structure and process) relates to institutionalized educational understandings. Principles of both rational organization and teacher competence follow this logic and interpret instruction (process) in terms of structure (student certification and teacher certification). But the logic does not define the principles. For example, the principle that teacher competence depends upon preservice training follows certification logic -- but so does the principle that teacher competence depends upon certified demonstration of competence. Similarly, the principles that rational organization produces graduates a) on the basis of grades completed or b) on the basis of certified competencies both follow the institutional logic of certification.

If the principles change through diffusion of myths regarding the bases of teacher trust and of rational educational production, and if new myths diffuse unevenly, a particular kind of school organization may more or less conform to local institutional understandings. Some local myths may be translated into state or district policies; others may manifest in disillusion with "established" principles. In either case, the meaning

and value of an account provided by, say, a four year teaching certificate might vary across schools.

This consideration suggests that researchers would have to control for local school variation in educational understandings in order to test propositions offered in Figure 5. And it is not likely that standard system boundaries, e.g., district or state units, would define shared principles for evaluating school instructional programs.

Institutional Principles of School Accountability. The diagram in Figure 6 offers a conception of a local school's accounting system. 'Principles of teacher competence' and 'principles of rational organization' are represented as institutional standards which vary as a function of diffusion processes. The principles interpret instructional activities in terms of educational categories (according to the logic of personnel and student certification) and serve as the basis for shared understandings about the school's educational program. In effect, these principles, define the focus of a school's accounting system. A school's organization would provide an adequate (institutional) account of instructional activities to the extent that these principles are represented by the program structure. Following the argument in Figure 5, a program's departures from institutional principles of structure demands an "official" school account. Such accounts would provide definitions of student or personnel categories or of teacher practices which conform to institutional accountability principles.

The diagram suggests that both principles of teacher competence and principles of rational organization, or educational production, are subject to institutional change. Such change may manifest locally in parents' beliefs and expectations, broader public sentiments about education, and/or in centralized educational policy (at district, state, or federal levels). The

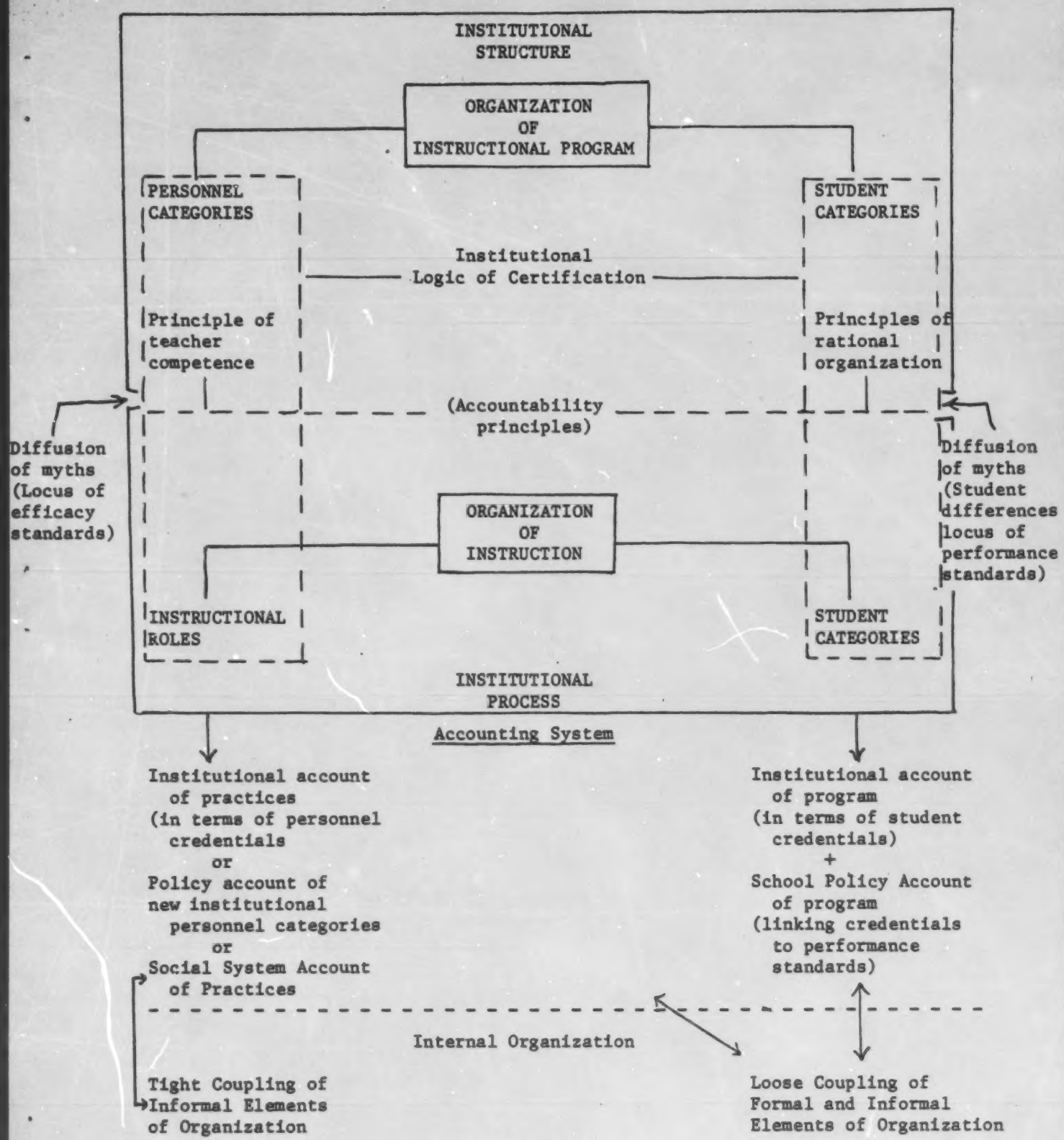

INSTITUTIONAL STRUCTURE
ORGANIZATION OF INSTRUCTIONAL PROGRAM
PERSONNEL CATEGORIES
STUDENT CATEGORIES
Institutional Logic of Certification
Principle of teacher competence
Principles of rational organization
(Accountability principles)
Diffusion of myths (Locus of efficacy standards)
Diffusion of myths (Student differences locus of performance standards)
ORGANIZATION OF INSTRUCTION
INSTRUCTIONAL ROLES
STUDENT CATEGORIES
INSTITUTIONAL PROCESS
Accounting System
Institutional account of practices (in terms of personnel credentials or Policy account of new institutional personnel categories or Social System Account of Practices
Institutional account of program (in terms of student credentials) + School Policy Account of program (linking credentials to performance standards)
Internal Organization
Tight Coupling of Informal Elements of Organization
Loose Coupling of Formal and Informal Elements of Organization

Figure 6. School Accounting System: Points of Institutional Change and Nature of Organizational Accounts

argument presented in Figure 5 suggests the ways in which schools might adapt to such institutional changes, while maintaining the meaning and authority of the instructional program. The diagram (Figure 6) indicates the alternative kinds of accounts which a school might provide given any accounting principle.

A school may meet a demand for, say, specialized education (an institutional principle of rational organization) by either defining new categories of students and adding special programs or by developing school policy accounts of how the current program accommodates the needs of student categories. Neither strategy would entail substantial change in internal organizational arrangements. Similarly, the teacher competence principle may change to increase credential categories or stages -- which could be handled organizationally by adding categories or by new policies for instituting local credentialling standards (say, inservice teacher credits).

However, the institutional-change perspective suggests that the principle of teacher competence may not be expressed in terms of credentials. Other criteria of competence may follow the logic of certification and accountability. For example, the use of individualized instruction or some other "demonstrated" performance may define teacher competency -- according to centralized policy or local educational mythology. By implication, the myth of teacher professionalism, supported by the credential system, would be challenged locally. What happens, then, when it is no longer common sense that credentialled teachers know how to teach?

Two kinds of school accounts might be offered in this case, according to the loose-coupling argument (Figure 5). A policy account could be offered -- specifying instructional roles in terms of competence standards. In essence, such policy would operationalize the competency principle. Alternatively, a social-system account could be offered -- translating teacher

activities in terms of the 'new' competency principle. The operational definition would be based on inductive, rather than deductive, processes.

A social-system account, as specified earlier, requires that considerable effort be devoted to reality construction and, thus, tight coupling of the principal and teacher roles. There is reason to believe that this adaptation may be less costly to teachers, or less demoralizing, than the policy adaptation. This expectation is based on the notion of "perceived slack", or the degree to which individuals feel they are able to satisfy their job expectations. Johann Olsen (1975) has suggested that organizational slack is reduced by operational definitions of such institutional myths. However, the institutionally-mandated operational account of instructional practices could vary in terms of lost slack. A social-system account would be induced from shared teacher understandings and practices relevant to the institutional-policy principle. Implicitly, ideosyncratic activities and general perceptions of slack -- would be protected by such an account. A high correspondence of practices and the official account is likely also to signify school compliance with institutional expectations.

In sum, schools must adapt to changing institutional understandings about effective educational programs. Centralized policy or new local myths may relect a new, (institutional) credentialling principle of student production and teacher competence. School accounts of their institutional 'fitness' would be offered by either elaborated program/personnel categories and/or elaborated school policy regarding credentialling procedures (implying looser coupling of elements of organizational structure). Alternatively, new institutionalized myths may follow a "performance" principle pertaining to teacher competence and/or student production. School accounts, in such cases, could not refer to <u>institutional</u> elements of structure (credentials).

They would need to establish a connection between the institutional conception of effective instructional process and the school's organization of instruction. The connection could be provided by school policy which establishes a (organizational) credentialling principle, e.g., local minimum-competency standards of student performance. Such credentials would have local meaning and consequence and would signify tighter coupling of student or teacher activities to formal elements of school organization. The loose-coupling model (Figure 5) suggests that changes in instructional process (tight coupling of school structure and process) may be avoided through increased coupling of informal elements of the school system. New communication patterns may enable the social system to identify aspects of the instructional process which signify institutional competency standards and which can be represented as school policy (no change in the coupling of school structure and process).

Suggestions for Comparative Research

The two preceeding sections offered propositions for comparative school research which are relevant to the EFT school data. Here I will suggest possible research strategies and a broader range of variables.

Recommendations for comparative, loose-coupling research on U.S. public schools are referenced by existing cautions against such efforts. Central reasons for current "neglect" of comparative school research set broad parameters of the suggested lines of comparative research. The guidelines include a) finding institutional contrasts within the U.S. system b) developing "standard" measures of loose-coupling variables and c) basing comparisons on intensive case analyses.

This commentary has been concerned mainly with the first problem entailed in comparative organizational research within the U.S. system. In order to

interpret the contrasting organizational patterns relevant to morale within the two school samples, it was necessary to argue that the schools differed significantly in their institutional organization. Two possible sources of variation in schools' institutional organization within the U.S. public educational system were suggested. They represent a potential for finding the kinds of critical constrasts needed for comparative school research within the loose-coupling paradigm.

Contrasting Cases and Research Issues. Two kinds of phenomena in public education capture variation in institutional-organization coupling and suggest school populations for comparative research. One is that some schools innovate in ways which "decouple" their program from local institutional understandings. A program might be adopted by a school or teachers might agree on the merits of a new instructional strategy which may be "irrational" by local school standards, regardless of whether or not it is referenced by more distant institutional understandings. These could involve structural innovations which disagree with local understandings about appropriate teaching credentials e.g., new "unauthorized" categories of teaching personnel. They also could involve process innovations which conflict with local understandings about "effective" instructional practices and with the notion that a teacher's practices are a matter of judgment about the unique constellation of needs in a particular class of students (the professionalism myth). A second phenomenon is that some policies reflect organizational rather than institutional principles of rationality; i.e., refer to school-wide performance standards which challenge institutional processes and credentials. In such cases, schools themselves are required to certify performance competencies of teachers or students. The myth represented by such a policy, as well the performance principle itself, may be more or less consistent with local understandings within the school and among constituencies of school.

These phenomena suggest various kinds of contrasts and research issues for comparative, loose-coupling research in the schools. The research would ask, generally, how beliefs about a school's educational program, and the level of trust in the program among sets of local actors (particularly the teachers, students, and parents) are supported by patterns of institutional and organizational (social system) arrangements.

One line of comparative research could compare organizational phenomena among schools with instructional programs which contrast in terms of institutionalized structure and process. Four sets of schools might be identified: those with highly traditional programs; those which use new, uncertified categories of personnel in traditional teaching roles, those in which non-traditional teaching roles have been adopted; and those which involve uncertified personnel in nontraditional instructional practices. One would then compare schools within and across the sets of terms of: parents perceptions of the program (nature of external myths); teachers, students, and principals' understandings about the program (internal myths); consensus among these accounts; trust among teachers; parent trust in school/teachers; nature of interaction among teachers (roles, focus of discussions, degree of social integration, etc.); nature of the teacher-princial relationship (roles, perceived value and focus of interaction, perceptions of the principal role, agreement of stories told about types of events, etc.); substance and detail of various school policies (nature of "accounts" of practices, degree of slack represented, etc.).

Cases also could be defined in terms of contrasting policy/program principles. Two kinds of comparisons could be made: between sets of schools which have been and have not been subject to centralized policy based on the organizational principle (say, schools in states with and without competency-

based educational policy; schools which have and have not undertaken programs mandating instructional practices); and among schools' adaptations to different kinds of policy (within a set of schools which have implemented performance-directed policy). The former kind of study would compare organizational arrangements and level of consensual understandings and trust in instructional practices - in terms of the general variables listed above. The latter kind of study would attempt to identify general social system adaptations to each kind of policy; and longitudinal research would allow for paired comparisons by school (same school-different policies), describing social processes and nature of understandings for the contrasting policies. Cross-sectional analyses could analyze school policy statements which appeared subsequent to the two kinds of legislation; and to the extent that different kinds of accounts are indicated, further research could address social-system implications of alternative local policy statements (in terms of phenomena such as those listed above).

Another policy-focused line of research could compare social system responses to performance-directed legislation. Longitudinal case analyses for a set of schools implementing such policy would be indicated; though, again, alternative policy accounts might be used to identify schools (i.e., contrasting school responses) for intensive case analyses involving use of documents, retrospective reports, and social-system descriptions. Longitudinal analyses would be concerned generally with the nature of both social processes and emergent myths which generate more and less consensus, trust, etc.

In addition to these possible sampling criteria, researchers might even begin by identifying sets of schools which contrast in terms of the level of trust apparently placed in the educational program (district personnel,

say, could be asked to rank "similar" schools in terms of various 'trust symptoms'). Moderate numbers of schools in contrasting trust sets could be compared in terms of program characteristics (according to institutional variables), social system variables (defined as coupling patterns) and variables pertaining to 'informal' myths about the instructional program (degree to which credentialling logic is represented, consensus within and among different constituencies, etc.). This strategy would serve to focus subsequent, more intensive case analyses.

These ideas for comparative school research illustrate ways in which researchers might capture loose-coupling variables within the U.S. educational system. Study designs would need to build in controls for as many "exogenous" variables as feasible, since the intensive field work involved in measuring many of the theoretical constructs precludes use of large samples and statistical controls. Such exogenous variables would include school phenomena known (or suspected) to relate to school morale and trust and to the nature or stability of a school's social system (e.g., rural-urban and socioeconomic base of the student population, turnover of personnel and principal tenure, etc.). Exogenous variables for a particular study also would include any aspects of the schools' institutional organization (relevant to institutionally defined understandings about the program) not of central research interest. In essence, one would want to rule out as many alternative accounts of the patterns observed as possible - by matching sets of cases on variables other than the contrasts which are of central interest. Such controls would leave a broad range of loose-coupling variables and school phenomena for intensive case analyses.

Sets of Variables. The earlier discussion offered propositions relevant to a fairly limited number of loose-coupling variables (Figure 5) - those which seemed to capture the available school organizational measures and to interpret their relationships to teacher morale. The following lists indicate something of the range and kinds of variables which could organize case analyses of the schools.

Loose Coupling Variables for Comparative Research on U. S. Schools:

Institutional Variables

Dominant principle of local myths about effective instruction (credential vs. performance-focused)

Institutional-organization Variables

Coupling of personnel categories to institutional credentials

Coupling of instructional process to dominant local performance myths

Coupling of student categories to institutional categories and credentials

Degree to which instructional policy follows the credential principle

Degree to which policy conforms to local performance myths (by constituency type)

School Organization Variables

Coupling of principal and teachers by authority principle

Coupling of teachers' instructional roles

Coupling of policy and teacher instructional practices

Coupling of policy and principal role

Coupling of policy and student role (instructional and social dimension)

Social System Variables

Coupling of principal's and teachers' informal roles (primacy of interactions)

Coupling of teachers' informal roles (primacy of interactions)

Focus of principal-teacher interactions (nature of coupling: noninstructional matters, instructional tasks, interpretation of tasks)

Cognitive Variables

Consensus of local myths about effective instruction (within and among constituencies: teachers, administrators, students, parents)

Agreement among teachers' and principal's stories about events

Perceived slack (teachers)

Perceived slack (students)

Consensus on role descriptions (referred to teacher, principal, student)

Perceived levels of trust in the program

Affective Variables

Teacher satisfaction with work, principal, colleagues, parents and students

Teacher involvement in instruction and commitment to current practices

Student involvement and satisfaction with the program

Parent trust in the efficacy of the program

Teacher trust in others' efficacy

This inventory does not begin to exhaust the variables relevant to loose-coupling research in the schools. Certainly, it does not suggest anything about the most central challenge to researchers in the new paradigm: developing ways of measuring such variables. Comparative research requires, essentially, means for observing and describing the belief system of a school. It also requires that researchers develop organizational measures which express the primacy of "overlapping" elements of the school system (their coupling). For example, a measure would be needed of the extent to which a principal is perceived by teachers as important for interpreting or performing work roles (in lieu of an interaction-frequency measure). These measurement challenge could well occupy the attention of researchers for many years.

Finding approximations will demand creative use of school documents and printed materials, observation and interview opportunities. Coding schemes are likely to be 'qualitative', or nominal categories, rather than ordinal scales; with school comparisons based on cumulative nominal data. For examples: a rating scheme might refer to prevalence or existence of alternative kinds of official statements about instruction, represented in a wide range of documents; dominance of an instructional myth might be partly represented by codings of individuals' accounts of, say, data on declining test scores; various coupling patterns may be partly indicated by codings of teachers' and principals' descriptions of their daily work, including stories they could be asked to provide about common situations in the classroom and school. In sum, researchers will have to abandon standard measurement strategies of comparative organizational research and attempt to capture contrasts in the schools' social environment and understandings about education.

Implications. The theoretical and applied value of comparative loose-coupling research on schools depends upon two critical factors. First, the institutional

contrasts among cases must be great enough that organizational processes make a difference for educational understandings. Comparative research within an institutionally-defined population of organizations clearly limits variation in important loose-coupling phenomena. Research investments thus are more "sure" with cross-national comparisons of schools or comparisons of schools with other kinds of U.S. organizations. (It is worth noting, however, that one loses control over a range of exogenous factors which distinguish distinct contexts, e.g., technology variables, occupational-career variables, cultural values, etc.).

A second critical factor in loose-coupling research is that the researcher needs to develop a much more intimate knowledge of the organizational context than required by standard organizational theory. This condition suggests something of an antidote to the first caution against comparisons within a particular institutional context: researchers will have difficulty becoming adequately immersed in many organizational contexts. Further, the research activities entail considerably greater "access" and involvement of the organization than is generally the case in organizational-survey research.

Both factors point to the relevance of applied considerations in loose-coupling research. Researchers might consider the potential of a context-bound effort in terms of the relevance of loose-coupling variables to central practical problems of the organizations. Such practical concerns may be reasonable guages of changes, and variation in, institutionally-defined meanings of the particular enterprise. Further, this assessment would suggest the possibility of gaining access to the arena and developing the kind of collaborative relationships within the organizations that are needed to carry out the research.

It would seem that a strong, applied case could be made for investing in comparative, loose-coupling research within the U.S. public school system. Educationists are as concerned as loose-coupling theorist about the basis of trust in the schools and the nature of educational understandings. There is clearly a perception that such phenomena are changing and not adequately understood. Federal and State educational policy proliferates and increasingly approximates the performance - referred principles of business organization -- running counter to traditional principles of instruction and school organization; and there are signs that the general level of public trust in educators and school programs is declining.

No doubt, much of this malaise is tied up with changes in the broader institutional context - demographic, economic and social factors which threaten traditional educational understandings. But to the extent that distrust varies across schools which share these institutional conditions, it will be possible to investigate the kinds of educational policy which may undermine trust and the kinds of school social systems which give local meaning to educational programs. The importance of such investigation seems clear. Student involvement in their education is likely, somehow, to be a reflection of trust in the system - and, by implication, the 'true' effectiveness of a school's program. Educationists will surely welcome any empirical commentaries on the kind of centralized policy or local school governance patterns which appear to support teacher morale and public trust in education. Perhaps school-organizational researchers and educationists can find mutual fruits in the ambitious , collaborative research agenda offered by the loose-coupling paradigm.

Overview

This commentary considered alternative organizational-theory interpretations of the data presented by Salomon and his associates in order to suggest directions for further comparative research on school organization. The secondary analyses of the Stanford EFT data focused centrally on school-level measures of teacher morale -- extending earlier research on teacher morale by Cohen and her colleagues. They departed from the earlier strategies of data analysis: examining patterns of association among reports about school organization phenomena and school morale measures, rather than testing organizational-theory hypotheses with standard construct indices.

Their data show rather striking contracts in the clustering of reported principal practices with teacher morale for two samples of elementary schools. In review, level of teacher morale among relatively small schools with traditional instructional practices is associated with teacher and principal reports of extensive school policies and teacher perceptions of the principal as 'rule-enforcer.' Among schools with larger student bodies, ECE funding and relatively complex instructional practices; teacher morale is positively associated with reports of principals' scrutiny and active support of instructional activities (and negatively associated with reported levels of school policy). The school samples are not distinguished in terms of mean levels of these variables or other factors with which they might interact in relation tc teacher morale, e.g., student social class and achievement, principal tenure, etc.

An interpretation of these patterns was not implied by a prior theoretical logic for the analyses. Their data raise the issue of interpretation. Do items cluster according to conventional organizational constructs? Do the

clusterings of items with teacher morale measures conform to theoretical notions of the way organizations function effectively? Do the data suggest possible refinements of our current understanding of school organizational phenomena? The value of the analyses for generating important applied research on school organization seems to depend upon one's answers to such questions.

One kind of interpretation that was considered derives from rational-organization theory. In particular, structural-contingency theory argues generally that dimensions of an organization's technology and environment determine which kind of arrangements are effective for controlling and coordinating production. The account of the school data would go as follows: Schools with complex instructional technologies and complex environments "do best" with administrative control of teaching (evaluation of practices, giving of advice and resources); whereas schools with less complex technologies and environments can rely on centralized control and coordination of instructional practices through rules. This account is consistent with empirical observations of business firms (though the "decentralized" control phenomenon refers usually to professional control of complex work activities and divisional monitoring of segments of complex environments). However, it does not mesh with data on teachers' preferred, "back-up" principal role; with data on the use of instructional evaluation in the schools; nor with sociological conceptions of the central, mediating function of school administration.

An alternative account fit these criteria for interpreting the data:

> Administrators of schools with complex internal and external social networks need to be in touch with daily classroom activities in order to provide the back-up which teachers expect; whereas less socially-complex schools can rely on policy for mediating relationships among actors in the school social system.

This interpretation of the data is a modified structural-contingency argument: it follows the functionalist, and interactionist logic of the rational-organization theory but substitutes a contextually-defined criterion of effective school administration. This account does not imply that principal back up of teachers is unrelated empirically to student learning (school "productivity"). It does imply that coordination and control of instructional activities would not be greater in the socially-complex schools where principals are involved in student-teacher matters. The relative adequacy of the two accounts could be investigated by more intensive research comparisons of governance strategies among socially-and instructionally-complex schools.

A third account derived from the emerging loose-coupling paradigm, which is centrally concerned with phenomena of educational organization. The account was grounded in the institutional model of school organization -- including symbolic-interactionist notions about social relations in "ambiguously-defined" organizations. In brief, the account goes as follows:

> Administrators of schools with nontraditional programs may help to generate social definitions of, and trust in, the schools' instructional program. Local school accounts and internal understandings about instructional activities develop out of social interaction between a principal and teachers: the principal helps to distill

> and diffuse beliefs about the efficacy of common teacher practices within the local-school system. In contrast, administrators of traditional school programs enforce institutional understandings about education - by maintaining the privacy of student-teacher relations and by developing operating procedures for matters not relevant to the professional judgements of teachers.

The potential theoretical and applied value of the account rests upon there being enough departures from institutionally-defined programs. Researchers would test this account by comparing the social systems and the educational understandings and trust between schools with institutionally-different programs. The discussion offered a number of ideas for capturing such contrasts and suggested issues for comparative loose-coupling research on schools.

The two theoretical models were offered as accounts of the data and as conceptual framework for future research on school governance. They commonly predict that school authority relations interact with program characteristics in supporting teacher morale. The models offer different predications about a) the program conditions which specify the relationship between school authority patterns and morale and b) the process model which describes the authority pattern involving intensive principal-teacher interaction. Thus, two kinds of empirical criteria would serve to distinguish the accounts.

The first would rely on data for socially-complex schools with more and less institutionally-defined instructional programs. The loose-coupling model predicts that only the latter sample would show teacher morale associated with principal involvement in instructional activities; the modified

structural-contingency model predicts that this pattern would hold for both samples.

The second would rely on data about the substance and social meaning of principal-teacher interactions in schools with high levels of both principal involvement in instruction and teacher morale. The assessment would consider the relative abilities of a symbolic-interactionist model vs. an exchange model to describe the principal-teacher relationship. The latter model, referenced by the principal back-up role, suggests that the value of a principal's involvement is defined by its instrumental value outside the relationship. The loose-coupling model offers a less instrumental view, and meaning of the principal role. The difference seems to hinge upon the importance of symbols and educational values in principal-teacher interactions. For example, how important is it to teachers that a principal a) understand why something is done rather than what is going on in the classroom b) define events in terms of shared educational values, rather than in terms of "objective" social-system conditions and c) state the school's "philosophy of education" in terms which reinforce each teacher's ideas about instruction? Answers to such questions would provide an empirical basis for rejecting or choosing the simpler, exchange-theory metaphor of the principal-teacher relationship.

In the short run, studies designed to choose between the two accounts would specify more clearly the practical implications of the data presented by Salomon et. al. Both theoretical models might offer valuable conceptual frameworks for organizing long-range research agenda and refining current understandings about local school governance. Each is likely to offer more reasonable analyses of school organizations and findings of greater applied value than have standard, comparative perspectives in the organizational literature.

References

Argyris, Chris. The Applicability of Organizational Sociology. Cambridge: Cambridge University Press, 1972.

Astin, A. W. Four Critical Years: Effects of College on Beliefs, Attitudes, and Knowledge. San Francisco: Jossey-Bass, 1977.

Bandura, A. Self-Efficacy: An Integrative Construct. Invited address presented at the meeting of the Western Psychological Association, San Diego, April, 1979.

Bandura, A. The Self System in Reciprocal Determinism. American Psychologist, 1978, 33, 344-358.

Becker, Howard S. The Teacher in the Authority System of the Public Schools. Journal of Educational Psychology, 1953, 27, 128-141.

Bidwell, C. The School as a Formal Organization. In March, James G. (ed.), Handbook of Organizations. Chicago: Rand McNally, 1965.

Blau, P. M. A Formal Theory of Differentiation in Organizations. American Sociological Review, 1970, 35, 201-218.

Blau, P. M. & Schoenherr, R. A. The Structure of Organizations. New York: Basic Books, 1971.

Bowers, K. S. Situations in Psychology: An Analysis and a Critique. Psychological Review, 1973, 80, 307-336.

Bowles, S. & Levin H. M. More on Multicollinearity and the Effectiveness of Schools. Journal of Human Resources, 1968, 3, 2-24.

Bronfenbrenner, U. Toward an Experimental Ecology of Human Development. American Psychologist, 1977, 32, 513-531.

Clark, B. The Organizational Saga in Higher Education. Administrative Science Quarterly, 1972, June, 174-184.

Cohen, E. G. Status Equalization in the Desegregated School. Paper presented at the annual meeting of the American Educational Research Association, April 1979.

Cohen, E.; Deal, T. E.; Meyer, J. W.; & Scott, R. W. Technology and Structure in the Classroom. Stanford Center for Research and Development Report, 1976.

Cohen, E. and R. H. Miller. Increased Accountability and the Organization of Schools. Stanford Institute for Research on Educational Finance and Governance, 1979.

Cohen, E. G.; Miller, R. H.; Bredo, A. & Duckworth, E. Principal Role and Teacher Morale Under Varying Organizational Conditions. SCRD Research Memorandum, 1977.

Cronbach, L. J., & Furby, L. How we Should Measure "Change" - or Should We? Psychological Bulletin, 1970, 74, 68-80.

Dornbush, Sanford M. and W. Richard Scott. Evaluation and the Exercise of Authority. San Francisco: Jossey-Bass, 1975.

Duke, D. L. •Looking at the School as a Rule-Governed Organization. Journal of Research and Development in Education, 1978, 11, 116-126.

Elashoff, J. E. & Snow, R. E. (eds.). Pygmalian Reconsidered. Charles A. Jones, 1971.

Gibbs, J. C. The Meaning of Ecologically Oriented Inquiry in Contemporary Psychology. American Psychologist, 1979, 34, 127-140.

Glass, G. V. Primary, Scondary and Meta-analyses of Research. Educational Researcher, 1976, 5, 3-8.

Glassman, R. B. Persistence and Loose-coupling in Living Systems. Behavioral Sciences, 1973, 18, 83-98.

Goffman, Erving. The Presentation of Self in Everyday Life. New York: Doubleday and Co., 1959.

Gordon, R. Issues in Multiple Regression. American Journal of Sociology. 1968, 73, 592-616.

Hasenfeld, Y. Human Service Organizations: A Conceptual Overview. In Hasenfeld Yeheskel and Richard A. English (eds.), Human Services Organizations. Ann Arbor: The University of Michigan Press, 1974.

Heyns, B. Social Selection and Stratification within Schools. American Journal of Sociology, 1974, 79, 1447.

Hortie, Dan. Schoolteacher. Chicago: University of Chicago Press, 1975.

Inolik, B. P. Organization Size and Member Participation: Some Empirical Tests of Alternative Explanations. Human Relations, 1965, 18, 339-350.

Jenkins, J. J. Remember that Old Theory of Memory? Well, Forget it! American Psychologist, 1974, 29, 785-795.

Johnson, Stephen C. Hierarchical Clustering Schemes. Psychometrica, 1967, XXXII, 241-254.

Kahn, R. L. Organizational Development: Some Problems and Proposals. Journal of Applied Behavioral Science, 1974, 10, 485-502.

Kirst, M. Organizations in Shock and Overload: California's Public Schools 1970-1980. Unpublished paper, Stanford University.

Levin, H. M. A New Model for School Effectiveness. Do Teachers Make a Difference? Washington, D. C.: HEW, 1970.

Levin, H. M. Educational Production Theory and Teacher Inputs. Unpublished manuscript, Stanford University, August 1978.

Lortie, Dan C. Schoolteacher. Chicago: The University of Chicago Press, 1975.

Lyman, S. M. and M. B. Scott. Accounts. American Sociological Review, 1968, 33, 46-62.

Mangham, I. L. Interactions and Interventions in Organizations. New York: Wiley, 1978.

March, James W. American Public School Administration: A Short Analysis. School Review, 1978, 86, 217-251.

Meyer, J. W. The Effects of Education as an Institution. American Journal of Sociology, 1977, 83, 55-77.

Meyer, J. W. Levels of the Educational System and Schooling Effects. University of Chicago: Educational Finance and Productivity Center, 1978.

Meyer, J. W. and B. Rowan. Institutional Organizations: Formal Structure as Myth and Ceremony. American Journal of Sociology, 1977, 83, 440-463.

Meyer, J. W. and B. Rowan. Notes on the Structure of Educational Organizatons. In Meyer, Marshall M. and associates (eds.) Environments and Organizations. Jossey-Bass, 1978.

Meyer, J. W., W. R. Scott, S. Cole and J. K. Intilli. Instructional Dissensus and Institutional Consensus in Schools. In Meyer, Marchall M. and associates (eds) Environments and Organizations. San Francisco: Jossey-Bass, 1978.

Meyer, Marshall. The Authority Structures of Bureaucratic Organization. Administrative Sciences Quarterly, 1968, 13, 211-228

Miles, R. E. Theories of Management: Implications for Organization Behavior and Development. New York: McGraw-Hill, 1975.

Mintzber, H. Policy as a Field of Management Theory. Academy of Management Review. January 1977.

Mitroff, I. I. and R. H. Kilman. On Organizational Stories: An Approach to the Design and Analysis of Organizations Through Myths and Stories. Unpublished manuscript, University of Pittsburg, 1975.

Moos, R. H. Evaluating Educational Environments. San Francisco: Jossey-Bass, 1979.

Moos, R. H. & Moos, B. S. Classroom Social Climate and Student Absences and Grades. Journal of Educational Psychology, 1978, 70, 263-269.

Mosteller, F. & Moynihan, D. P. (eds.). On Equality of Educational Opportunity. New York: Vintage Books, 1972.

Olsen, J. Choice in an Organized Anarchy. In March, James G. and Johan P. Olsen. Ambiguity and Choice in Organizations. Bergen, Norway: Universitetsforlaget, 1976, 82-139.

Ouchix, W. G. and M. A. Maguire. Organizational Control: Two Functions. Administrative Science Quarterly, 1975, 20, 559-569.

Pennings, J. Measures of Organizational Structure: A Methodological Note. American Journal of Sociology, 1973, 79, 686-704.

Perrow, C. Demystifying Organizations. In: R. C. Sarri & Y. Hasenfeld (eds.). The Management of Human Services. New York: Columbia University Press, 1978.

Pippert, R. A. A Study of Creativity and Faith. Manitoba Department of Youth and Education Monograph, 4, 1969.

Rutter, Michael, Barbara Mauchan, Peter Mortimore, and Janet Ouston. Fifteen Thousand Hours: Secondary Schools and Their Effects on Children. Cambridge, Mass.: Harvard University Press, 1979.

Salancik, G. R. Notes on Loose Coupling: Linking Intentions to Actions. Unpublished manuscript. University of Illinois, Urbana-Champaign, 1975.

Schmuck, R. A. Applications of Social Psychology to Classroom Life. In D. Bar-Tel & Saxe, L. (eds). Social Psychology of Education, New York: Wiley, 1978.

Scott, Richard W. Organizational Structure. Annual Review of Sociology, 1975, 501-529.

Seaver, W. B. Effects of Naturally Induced Teacher Expectancies. Journal of Personality and Social Psychology, 1973, 28, 333-342.

Shepard, R. N. Extracting Latent Structure from Behavioral Data. Proceedings of the Symposium on Digital Computing. Bell Telephone Laboratories, New Jersey, 1964.

Smith, M. S. & Bissell, J. S. Report Analysis: The Impact of Headstart. Harvard Educational Review, 1970, 40, 51-104.

Stokols, D. Toward a Psychological Theory of Alienation. Psychological Review, 1975, 82, 26-37.

Sussman, Leila. Tales out of School. Philadelphia: Temple University Press, 1977.

Talbert, J. Accountability and School Management: An Exchange Theory Model. Stanford University, unpublished, 1979.

Thomas, Margaret A. A Study of Alternatives in American Education, Vol. II: The Role of the Principal. Rand Corp., NIE Document R-2170/2 NIE, April 1978.

Thomas, W. I. & Thomas, E. S. The Child in America. New York: Knopf, 1928.

Thompson, James D. Organizations in Action. New York: McGraw-Hill, 1967.

Van de Ven, Andre H., Andre L. Delbeca, and Koening, R. Jr. Determinants of Coordination Modes within Organizations. American Sociological Review, 1976, 141, 322-338.

Weick, K. E. Educational Organizations as Loosely Coupled Systems. Administrative Quarterly, 1976, 21, 1-19.

Weiner, B. A. Theory of Motivation for Some Classroom Experiences. Journal of Educational Psychology, 1979, 71, 3-25.

Weiner, B., Russel, J., & Terman, D. Affective Consequences of Causal Ascriptions. In J. H. Harvey, W. J. Ickes, & R. F. Kidds (eds.). New Directions in Attribution Research, Vol. II, Hilsdale, N. J.: Lawrence Erlbaum, 1978.